0000005333

Rocky Flats Plant

Environmental Compliance Program Description

January 28, 1993

CONTENTS

1 INTRODUCTION

The *Rocky Flats Plant Environmental Compliance Program Description* (ECPD) provides an overview of current EG&G Rocky Flats, Inc. (EG&G) environmental compliance programs and their efforts to comply with all environmental and waste laws, regulations, and requirements applicable to the Rocky Flats Plant (RFP). It provides a "snapshot" general description of environmental and waste compliance programs currently in place at RFP.

Overall direction for environmental compliance at RFP is provided by Department of Energy (DOE) and EG&G management. Several programs currently in place or being implemented help management address the following compliance-related activities.

- Identification and interpretation of requirements
- Establishment of work priorities
- Determination of resource requirements
- Coordination and integration of the activities of several organizations
- Tracking of progress on individual projects
- Provision of internal oversight
- Measurement of performance
- Correction of identified deficiencies

EG&G Rocky Flats recognizes the importance of compliance as a shared commitment involving all levels of RFP personnel from top plant management to the worker on the floor. It is vitally important that clear direction and understanding be provided to line management and floor personnel so they can ensure that building operations are performed in a manner consistent with the requirements. Only through a coordinated, cooperative effort will the plant be fully successful in achieving and maintaining compliance with the increasingly complex set of rules and regulations mandated by federal and state laws, oversight agencies, DOE orders and requirements, and EG&G policy.

This document provides (1) a description of organizations with direct line management responsibilities for compliance, (2) an explanation of how line management achieves and maintains compliance at the floor level, (3) a review of regulatory requirements and how those requirements are identified and forwarded to appropriate organizations, and (4) a description of plant programs currently in place and their roles related to compliance. Additional information is provided on programs to track compliance issues, training and certification programs, quality assurance responsibilities, and internal and external oversight activities.

Many of the necessary components for a viable, working compliance program currently exist at RFP in one form or another, but there remains a lack of coordination or a centralized authority to manage overall plant compliance. As a result, the existing compliance programs are fragmented, suffer from inadequate communication among affected organizations, and are often confusing on the floor level. The lack of a centralized authority makes it difficult to provide clear direction to personnel, or to provide assurances that individual programs are, indeed, in compliance with applicable requirements. Recent efforts of RFP management are moving to address these issues.

1.1 Purpose and Scope

The RFP ECPD is an assessment of compliance programs currently in place plantwide, and particularly within the Environmental & Waste Management (E&WM) organization. It also identifies any known programmatic gaps that could hinder RFP's efforts to maintain compliance with environmental laws and regulatory requirements.

RFP is committed to ensuring compliance with a host of federal, state, and local environmental laws, DOE orders, various agreements, and consent decrees that are directed at protecting the environment and public health. The following list is representative of the major federal laws addressed in this document.

- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Resource Conservation and Recovery Act (RCRA)
- Superfund Amendments and Reauthorization Act (SARA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- National Environmental Policy Act (NEPA)
- Toxic Substances and Control Act (TSCA)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

State regulations address provisions of the CAA, air quality permitting, Colorado Water Quality Control Act, chlorofluorocarbons (CFCs), and RFP-specific water standards. There also are numerous DOE orders, various agreements, and compliance requirements including monthly State Exchange Meetings, the Interagency Agreement (IAG), the Agreement in Principle (AIP), the National Pollutant Discharge Elimination System (NPDES) permit, the Federal Facility Compliance Agreements (FFCAs) (for surface waters and for Land Disposal Restricted Wastes [LDR]), the Settlement Agreement and Compliance Order, RCRA Part A and B Permit, Executive Orders, consent orders, and Notices of Violation.

All these laws, orders, and agreements mandate specific actions and have created a complex compliance situation at the RFP.

1.2 History

Historically, RFP performed a national defense production mission crucial to the nation's nuclear weapons defense system. Plutonium was the material of primary concern, and various engineering and administrative controls were in place to prevent its release to the environment. Although the plant has generally been successful in containing radioactive materials, the same is not necessarily the case for the various chemicals that have been used as part of the plant's industrial operations. Until recently, many of these chemicals were not regulated when stored, treated, or disposed. As a result, management and cleanup of these chemicals are the major focus of environmental protection activities currently underway at RFP.

The late 1980s and early 1990s represented periods of changes in operations at RFP. The 1984 RCRA Amendments for the first time defined mixed radioactive and hazardous wastes and represented an important milestone in waste management activities at the plant. Although several jurisdictional issues were initially disputed, the RFP became the first federal facility in the nation to

accept state oversight when the DOE, the Environmental Protection Agency (EPA), and the State of Colorado signed a historic RCRA-CERCLA compliance agreement in 1986, giving the state authority to regulate the hazardous components of RFP's low-level waste. (The Atomic Energy Act remains pre-eminent in the control of radioactive materials.)

As plant personnel worked to satisfy RCRA requirements, however, a series of events followed that changed the mission, focus, and operations of RFP. These events included stringent limits on waste storage and treatment options, an unprecedented federal investigation of the plant looking for evidence of criminal violations of environmental laws, the subsequent curtailment of plutonium operations, the change in Management & Operating (M&O) contractors, and the end of the plant's historical production mission. Today, RFP faces regulations and oversight expectations as it transitions to a new mission focusing on environmental restoration and decontamination of facilities.

1.3 Organizational Responsibilities

1.3.1 DOE Rocky Flats Office (RFO)

DOE RFO has primary responsibility for overseeing and administering the M&O contract at RFP. RFO receives programmatic guidance from DOE Headquarters (HQ) (EM-40) Office of Environmental Restoration.

Currently, management authority through HQ is divided primarily between two functions. The Assistant Secretary for Defense Programs (DP-1) has HQ line management responsibility for DOE DP activities, including the development of policy and the issuance of programmatic and fiscal direction for the integrated weapons complex, which includes RFP. The Assistant Secretary for the Office of Environmental Restoration and Waste Management (EM-1) has HQ line management responsibility for the development of policy and the issuance of programmatic and fiscal direction for corrective action, environmental assessment and restoration, and waste management activities at RFP.

The Manager of DOE RFO reports directly to DP-1, who is the principal secretarial officer responsible for RFP. EM-1 also provides programmatic direction. The Manager of DOE RFO has responsibility for executing the full range of contracting officer responsibilities associated with the day-to-day operation of RFP. The RFO Manager has immediate responsibility for directing the RFP M&O contractor.

DOE RFO oversight of the RFP M&O contract involves a diverse range of responsibilities. These include budget and resource management, procurement and contract administration, personnel and industrial relations, information management, legal affairs and property management, public and intergovernmental affairs, security and nuclear safeguards, transportation and traffic management, facilities management, operational activities, including environmental safety and health, environmental restoration, quality assurance, waste management, nuclear material management, operational security, and plutonium recovery.

In the area of environmental and waste compliance, DOE RFO provides oversight to ensure that operations are performed in compliance with applicable requirements, examines the cost-effectiveness of contractor activities, and provides long-term planning direction. RFO also

interfaces and negotiates with regulatory agencies as appropriate. Figure 1-1 illustrates the DOE RFO organizational structure. Figure 1-2 summarizes the DOE RFO organizations and their respective activities in the areas of environmental compliance oversight.

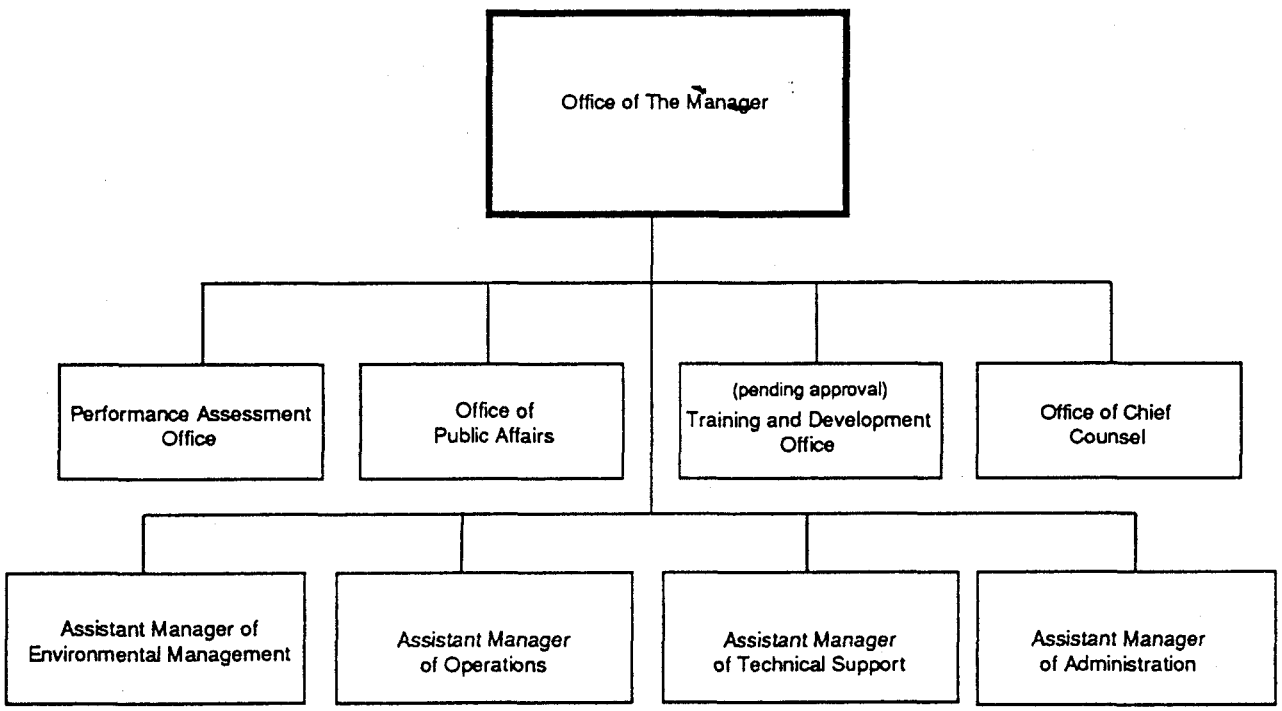

Figure 1-1 DOE RFO Organizational Structure

DOE OVERSIGHT COMPLIANCE ACTIVITIES

- Assistant Manager for Environmental Management
  - Implement policies and programs for environmental management at RFP and coordinate with other organizations to facilitate their implementation
  - Verify that contractor is achieving the desired environmental and waste management results
  - Evaluate overall performance in environmental management activities
- Assistant Manager of Operations
  - Activities relating to facilities and production
  - Control work to ensure it is accomplished in a way that complies with all applicable federal, state, and local laws, regulations, and other requirements
  - Protect environment, health and safety of DOE and contractor employees, and general public
  - Direct the design, construction, and modification of facilities and equipment
  - Process and interpret pertinent requirements imposed by federal laws, regulations, and requirements of other federal agencies such as the EPA and DOE operational objectives
- Assistant Manager of Technical Support
  - Interpret safety and occupational health requirements imposed by local, state, and federal laws, and requirements of federal agencies such as the EPA, and DOE operational objectives
- Assistant Manager of Administration
  - Provide overall management direction for planning and budgeting, including resource management, procurement and contract administration, personnel, and industrial relations
- Office of Chief Counsel
  - Provide legal opinions, advice, assistance, and counsel with respect to interpretation of regulatory requirements
  - Represent DOE in formal regulatory proceedings
  - Advise RFO Manager of any proposed DOE intervention in formal regulatory proceedings
- Office of Public Affairs
  - Serve as liaison with news media
  - Coordinate public hearings for environmental programs or others as required
- Office of Performance Assessment
  - Conduct independent oversight and compliance review of RFO and RFO contractor activities with focus on compliance with established safety and health, environmental, safeguards, security, and quality assurance requirements
  - Conduct reviews of DOE orders to determine compliance and implementation status
  - Advise RFO managers of deficiencies in meeting requirements
  - Overview the adequacy and timeliness of corrective actions
  - Evaluate trend programs and identify problems
- Training and Development Office
  - Administer training for RFO employees
  - Evaluate contractor's training and accreditation programs
  - Provide assistance in job task analysis and training needs assessment
  - Establish qualification standards for RFO employees

Figure 1-2 DOE Oversight Compliance Activities

1.3.2 EG&G Rocky Flats, Inc.

As the prime RFP contractor, the management of EG&G Rocky Flats, Inc., is structured to provide close interface and coordination with DOE counterparts. The EG&G organization includes an EG&G General Manager and Deputy General Managers and specific staff, program, and functional organizations. Figure 1-3 depicts the EG&G structural organization; shaded areas indicate organizations where environmental compliance line management functions exist.

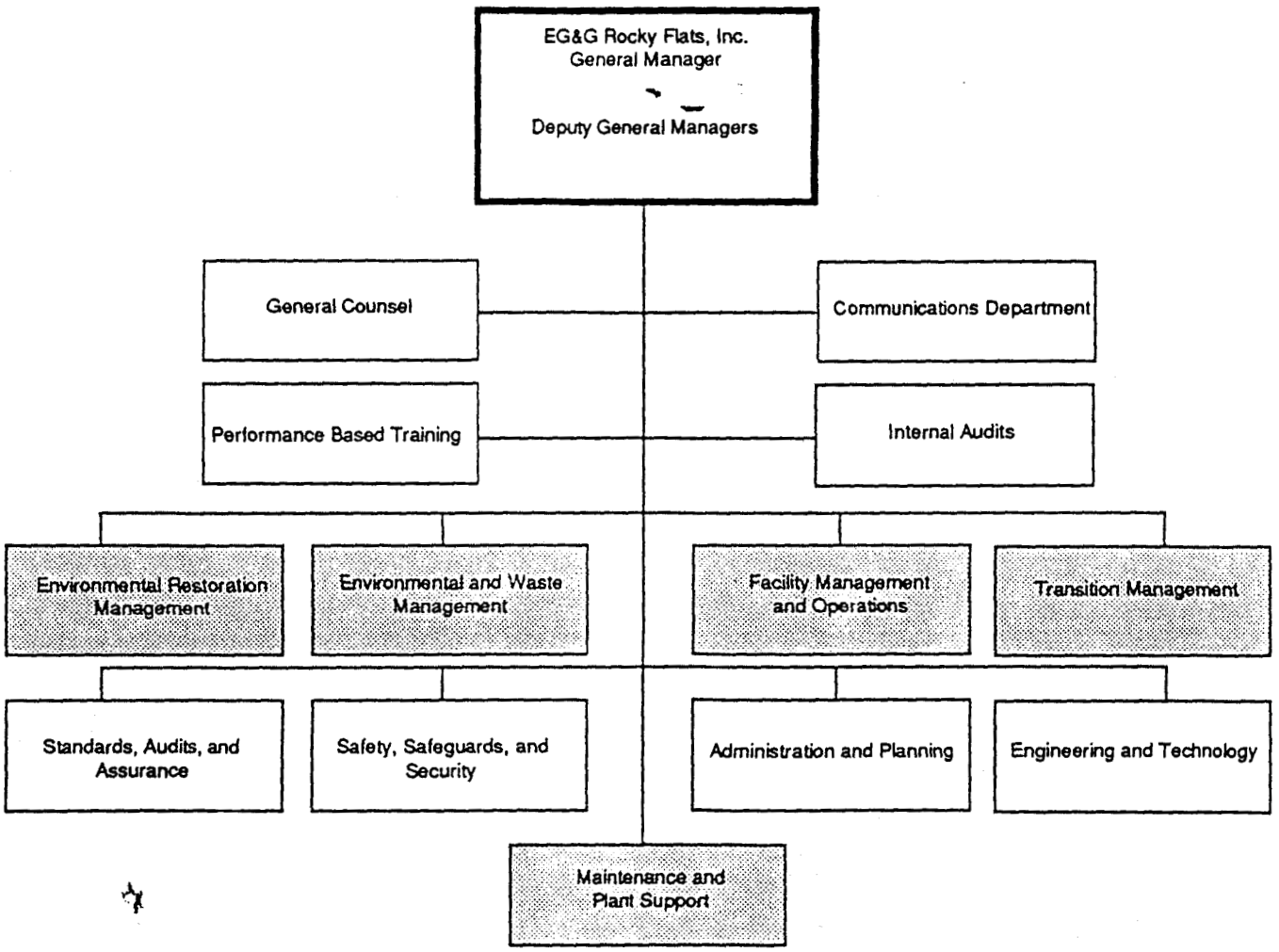

Figure 1-3 EG&G Organizational Structure

Program organizations control financial resources and procure services from functional organizations. Line management functions, which are responsible for specifically implementing environmental and/or waste compliance activities, can reside within either a program or functional organization. Line management functions are incorporated in the Environmental & Waste Management organization, Facility Management and Operations, Maintenance and Plant Support, Transition Management, and Environmental Restoration Management (ERM). Other organizations

provide support, such as Legal; Performance Based Training; Communications; Internal Audit; Engineering and Technology; Administration and Planning; Safety, Safeguards, and Security; and Standards, Audits, and Assurance. Figures 1-4 through 1-8 are organizational charts showing where line management functions exist; organizations with line management compliance functions are shaded. Figure 1-9 illustrates the EG&G Rocky Flats, Inc., organizations with specific line or environmental compliance functions; Figure 1-10 summarizes all EG&G organizational environmental compliance activities.

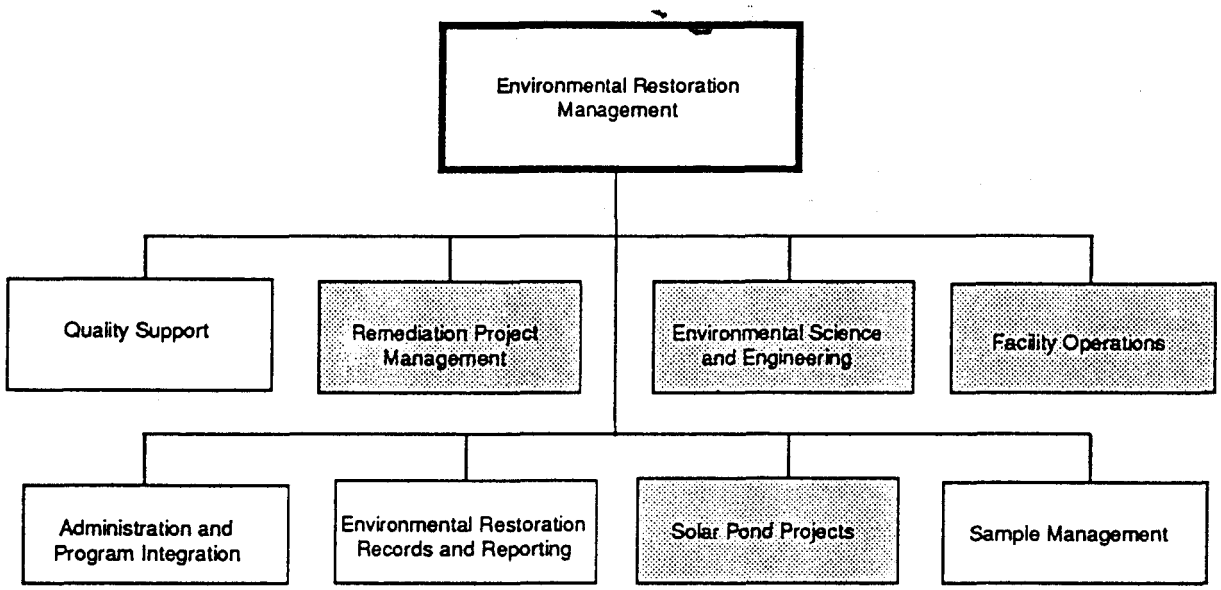

Figure 1-4 Environmental Restoration Management

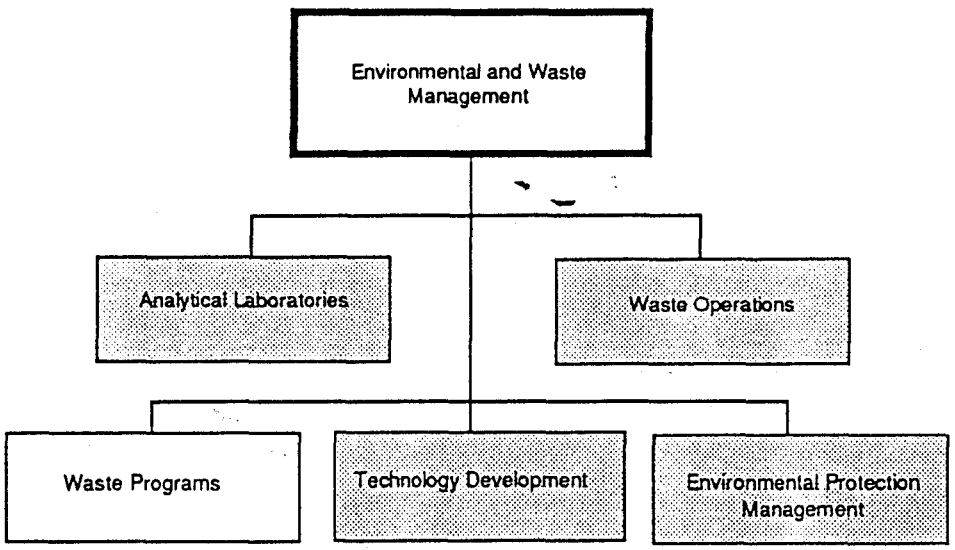

Figure 1-5 Environmental and Waste Management

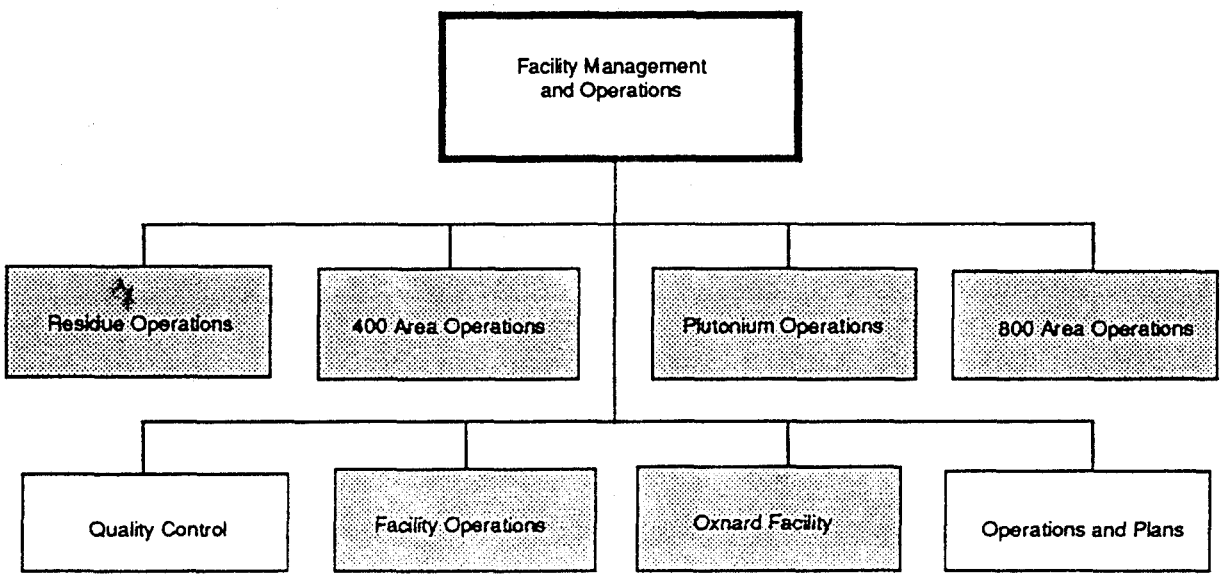

Figure 1-6 Facility Management and Operations

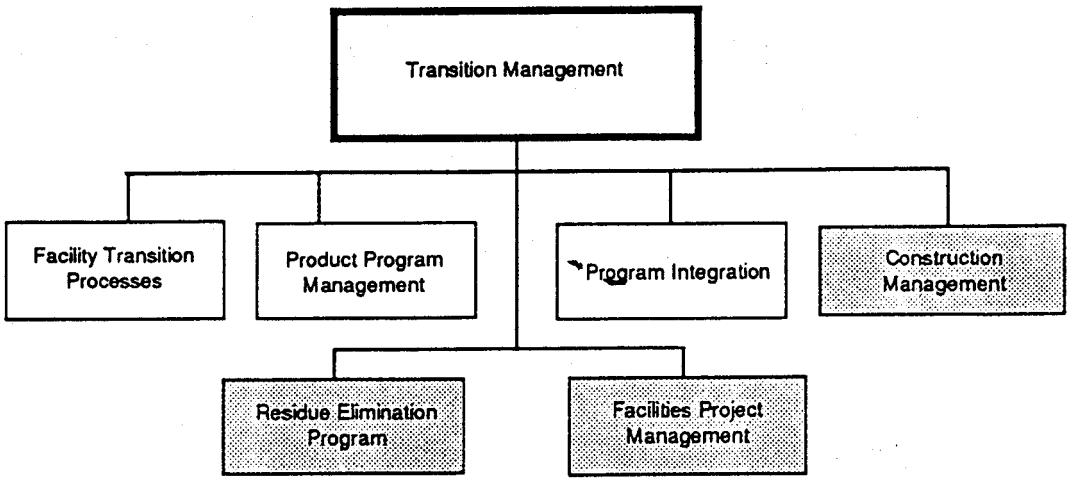

Figure 1-7 Transition Management

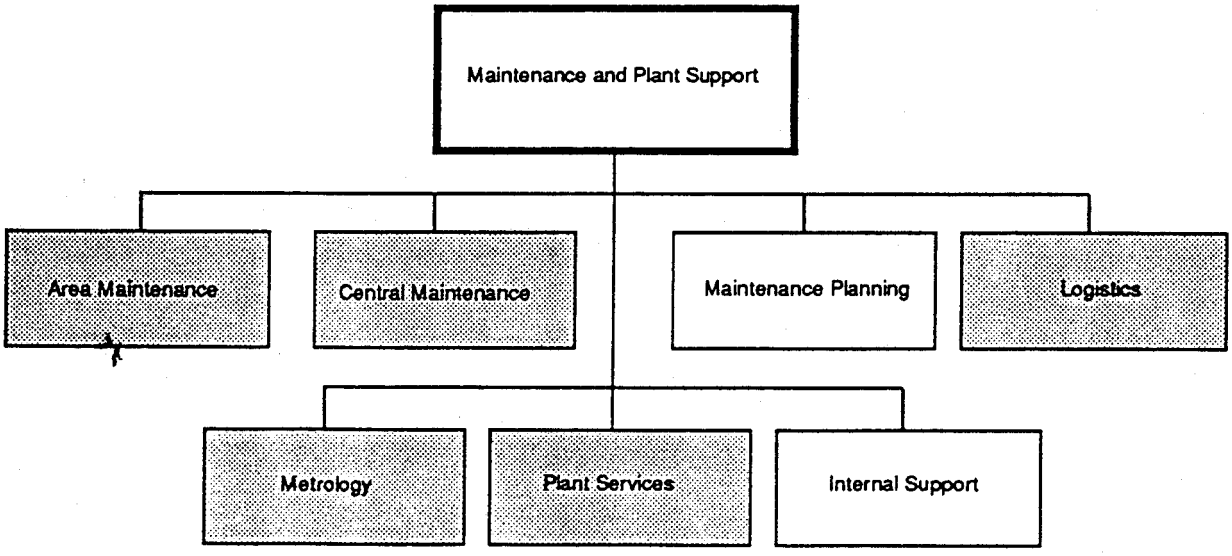

Figure 1-8 Maintenance and Plant Support

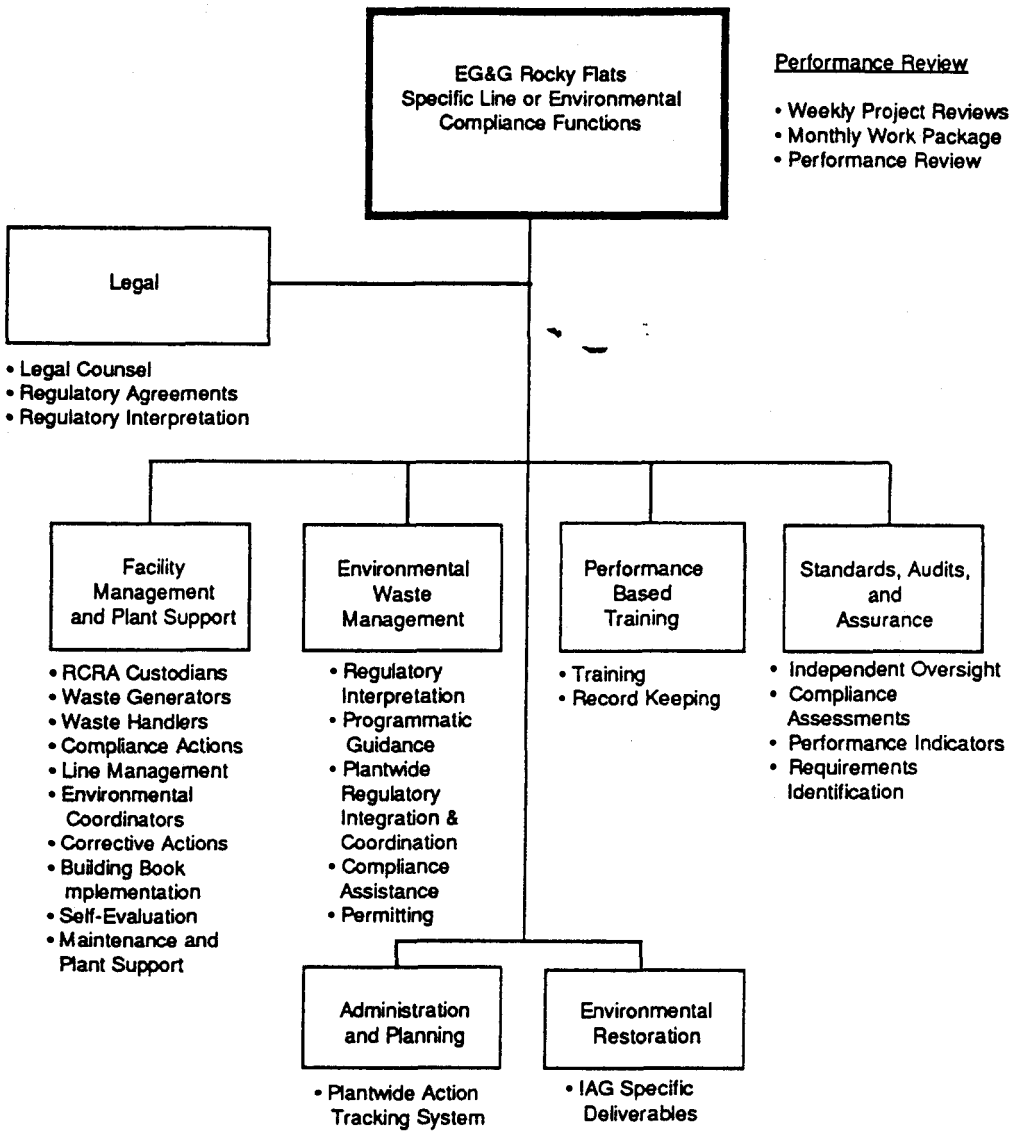

Figure 1-9 EG&G Rocky Flats Specific Line or Environmental Compliance Functions

EG&G ORGANIZATIONAL COMPLIANCE ACTIVITIES

- Environmental & Waste Management
  - Manage specific waste and environmental programs in conformance with requirements
  - Perform activities involving Waste Operations, Waste Programs, Technology Development, Analytical Laboratories, and Environmental Protection Management
- Environmental Restoration Management
  - Manage the cleanup and environmental restoration of RFP per the requirements of the IAG
- General Counsel
  - Provides interpretation of regulatory requirements
  - Provide clarification of issues
  - Participate in negotiations with regulatory agencies
  - Address issues on an *ad hoc* basis identified by operational organizations
- Performance-Based Training
  - Develop, deliver, and administer training programs to achieve compliance
- Communications
  - Develop and implement the Community Relations Plan to ensure public involvement in decisions related to CERCLA/RCRA/IAG environmental restoration
  - Implementation of public information and involvement requirements for RCRA waste management activities
  - Development and implementation of NEPA community relations activities
- Internal Audit
  - Measure and evaluate effectiveness of other controls
- Facility Management and Operations
  - Represent the buildings and the floor personnel who perform work consistent with requirements
- Transition Management
  - Know building compliance status and environmental and waste compliance issues that might be associated with decontamination activities
  - Know requirements that must be met to maintain a production contingency
- Engineering and Technology
  - Provide engineering expertise through Work Orders and Engineering Job Orders
  - Provide support through resident system engineers
- Maintenance and Plant Support
  - Provide support to facilities and operations
- Administration and Planning
  - Manage the Plant Action Tracking System (PATS) to track issues and provide financial guidance
  - MCS for budgets, schedules, milestones, and actual costs
  - Records management
- Safety, Safeguards, and Security
  - Manage health and safety issues, as well as Radiation Protection
  - Manage safeguards, security, emergency preparedness, and shift superintendents
- Standards, Audits, and Assurance
  - Identify applicable standards
  - Conduct baseline compliance reviews
  - Conduct surveillances and assessments

Figure 1-10 EG&G Organizational Compliance Activities

2 LINE AND PROGRAM MANAGEMENT

The environmental and waste compliance programs currently in existence at RFP converge at the floor level, where line management and line personnel are ultimately responsible for achieving and maintaining compliance with applicable requirements. For the purpose of this document, the line management function refers to personnel who are responsible for specifically implementing compliance activities. This may include personnel who generate waste, operate regulated units, and perform inspections. It does not include oversight functions or functions that may provide advice or support to the line function.

The goal of EG&G line management is to operate all regulated units at RFP within the provisions of the law, including performing all required inspections (daily, weekly, or monthly), developing and maintaining all required documentation, complying with permitting requirements, properly disposing, treating, or transporting waste, and maintaining quality assurance activities to ensure that operations are performed in compliance with requirements.

Within line management, the facility operations manager is a key function responsible for maintaining and managing compliance within individual facilities. This includes, but is not limited to, identifying and characterizing waste material, handling waste material, managing RCRA storage areas and individual RCRA units within buildings, maintaining operations in compliance with permits and applicable requirements, performing surveillances and internal inspections, and performing appropriate monitoring for emissions. Generally, shift managers report to the operations manager, foremen report to the shift managers, and operators on the floor report to the appropriate foreman.

Operations managers are faced with numerous requirements that they must consider in managing operations. In addition to environmental and waste compliance issues, they must ensure the health and safety of their employees, As Low As Reasonably Achievable (ALARA) goals, and adherence to DOE orders, Conduct of Operations, their facility's safety envelope, and Limiting Conditions for Operation (LCOs).

The operations manager interfaces with and receives guidance from various program, functional, and support organizations across the plantsite to achieve and maintain compliance. For the purposes of this document, the program management function refers to the personnel who are responsible for specifically developing and implementing programs that provide a framework for achieving environmental compliance. Specific responsibilities include development of requirements documents, development and implementation of procedures, permitting activities, providing on-the-floor guidance, and performing audits.

As the level of training and knowledge has increased across the floor, employee understanding of environmental compliance requirements also has increased. To date, RFP has made significant strides toward achieving and maintaining environmental and waste compliance, but much more is required to fully implement the compliance program at the line level. The regulatory requirements imposed on RFP are complex and can be difficult to understand in day-to-day operations. For the operations managers and floor personnel to be fully successful, it is essential that they be given clear, concise, building-specific direction. Line personnel need clear direction on which processes are affected by regulatory requirements, how to manage the processes, and how to check, monitor, and verify that those processes are effective.

Several functional organizations serve a support role to help a facility achieve and maintain compliance, including Maintenance and Plant Support, and Engineering and Technology.

2.1 Maintenance

Maintenance (see Figure 1-8) supports environmental or waste compliance by providing support to RFP facilities and operations, as well as by managing its own RCRA satellite stations (for paints, cleaning and degreasing solvents, bulb crushers). Maintenance satellite areas are managed by custodians and subject to regular inspections. Employees are trained to RCRA requirements.

Maintenance support to an individual building or operation is identified through the appropriate operations manager. If an inspection or internal surveillance identifies a finding or deficiency, that deficiency is forwarded to the appropriate operations manager, who will complete a Work Control Form as required by the Integrated Work Control Program (IWCP), including assigning a category designation to the job. (Most RCRA maintenance issues automatically receive a category 2-D, which is surpassed only by safety issues or Priority I emergencies.) The operations manager assigns a priority to the work consistent with all other maintenance work in his or her area.

If required, the Work Control Form will be forwarded to Engineering to prepare any required design documents. Engineering follows essentially the same priority system, but it is the responsibility of the operations manager to determine which priority gets first attention. Once the Engineering work is completed, it is returned to the operations manager who works with Maintenance Planning to plan the maintenance work and prepare the actual work package. Maintenance craftsmen then perform the actual work.

In the event of an emergency or Priority I event (e.g., leaking pipe threatening to exceed containment), Maintenance performs the necessary repairs immediately. Engineering and a shift manager supervise the work in progress. A work package is prepared after the fact to document what occurred.

Within Maintenance are approximately 480 craftsmen and 40 planners. Fifteen to twenty operations maintenance personnel are also in the buildings, as well as systems engineers who may be assigned to specific buildings. Funding and resources have a direct bearing on the maintenance work that is performed. Individual buildings pay for maintenance performed, and the work will only get done if the operations manager has the funding to support that maintenance. There is currently within Maintenance a backlog of approximately 9,000 jobs, not including capital projects.

The Logistics organization within Maintenance and Plant Support also serves as a line function. Logistics is responsible for all warehousing, shipping, and property utilization and disposal on plantsite. Among the current issues faced by Logistics are materials that were historically moved to the Property Utilization & Disposal (PU&D) areas and remain in storage. When originally moved, some materials were not fully characterized. Today, Logistics will not accept any materials unless certified as radiologically clean, and free of oil, solvents, or hazardous substances. Material not meeting the criteria is returned to the sender. Logistics is continuing to work with regulatory authorities and EG&G organizations to resolve ownership and technical issues associated with older drums.

2.2 Engineering and Technology

The support provided by Engineering and Technology (see Figure 1-3) comes primarily from two sources: a work order or an Engineering Job Order (EJO). Engineering must be contacted for that support to be provided. Work orders are written by the operations manager of a particular area and represent day-to-day support that might be provided by Engineering. Day-to-day work orders may include addressing findings from an internal or external inspection, such as leaks in tanks, valves, or fittings, secondary containment issues, or other types of field support. Engineering Job Orders also are written by the operations manager, but are written for larger projects such as new facilities, equipment, or major upgrades. Funding is acquired and work packages are prepared for EJOs. Engineering provides the resources and technical input necessary to develop a Project Management Plan (PMP). The PMP is prepared by Facilities Project Management (FPM), which integrates and prioritizes plant projects.

Approximately 800 personnel are currently located within Engineering to support the plantsite, providing engineering expertise and required drawings (e.g., electrical, mechanical, structural). Engineering also provides support through resident system engineers, who interface with the operations manager, helping coordinate the work order back to Engineering.

When working with environmental or waste compliance issues, Engineering relies on expertise from the appropriate Associate General Manager (AGM) organization to define the requirements. Engineering must know what the requirement is in order to complete a project that meets those requirements. This is a key to environmental regulatory compliance.

3 REGULATORY REQUIREMENTS

EG&G Rocky Flats, Inc., is legally obligated to comply with all applicable environmental requirements imposed on the RFP, as well as contractually obligated to the DOE.

The following is a list of the federal environmental requirements representative of those that may apply to plant operations.

- Clean Air Act (CAA)
- Clean Water Act (CWA)
- Safe Drinking Water Act (SDWA)
- Resource Conservation and Recovery Act (RCRA)
- Solid Waste Disposal Act (SWDA)
- Hazardous and Solid Waste Amendments (HSWA)
- Toxic Substances Control Act (TSCA)
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act (SARA)
- Emergency Planning and Community Right-to-Know Act (EPCRA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)
- National Environmental Policy Act (NEPA)
- Endangered Species Act
- Migratory Bird Treaty Act
- Fish & Wildlife Act

- National Fishing Enhancement Act
- National Historic Preservation Act

In addition to federal statutes, numerous state statutes and subsequent implementing requirements apply to plant operations and establish state primacy, including the Colorado Air Pollution Control and Prevention Act, the Colorado Drinking Water Act, the Colorado Hazardous Waste Act, and the Colorado Water Quality Control Act, which created the Colorado Water Quality Control Commission. County regulations apply to landfill operations. Adding to the list of requirements are specific agreements that have been initiated, including the IAG to govern environmental remediation and restoration activities, the AIP signed by DOE Secretary Watkins and Colorado Governor Romer, the Residue Compliance Agreement, the FFCA for Land Disposal Restricted Waste, the administrative compliance order for radionuclide NESHAPs, and various consent orders and Notices of Violation. Finally, EG&G must comply with numerous DOE orders and Department of Transportation (DOT) requirements, and address findings identified by DOE Tiger Teams, auditors, and congressionally mandated oversight groups, such as the Defense Nuclear Facilities Safety Board (DNFSB).

3.1 Identification of Requirements

Identifying the various requirements that may apply to RFP operations can be a difficult task complicated by the number of regulatory authorities and agencies involved and, to a lesser extent, by the political considerations that surround RFP operations. Requirements identification has been divided under two directorates within Standards, Audits, and Assurance (SAA): Environmental Compliance Support (ECS) is under Standards and Policies; the Self-Assessment Branch (SAB) is under Assessment (see Figure 1-3).

As part of SAA's Environmental Compliance Program Plan, a procedure was developed (4-25000-ERRP-0001, Environmental Regulations Review Process) that established the processes and responsibilities to ensure that environmental regulatory requirements were identified and analyzed, and the responsible director(s) notified of the requirement. It is the responsibility of ECS to identify and analyze all current and evolving environmental requirements applicable to EG&G, and to determine if written policies, programs, and procedures adequately address the requirements. Assessment's role is to assess the environmental compliance status of EG&G by identifying specific compliance issues, planned and completed corrective actions, and to report trends. ECS provides various summary reports to DOE RFO and appropriate EG&G organizations that provide an overview of environmental compliance within EG&G and alerts management of potential environmental issues and significant areas of concern.

As part of its program, the ECS is performing a one-time baseline analysis of existing environmental requirements that will provide the foundation for a computerized database, categorizing each requirement under one of the major federal statutes. Completion of the computerized database is anticipated by September 1993. When completed, the database will contain the information obtained as a result of the baseline analysis as well as information on newly promulgated proposed and final requirements. It will be updated as appropriate.

Information reviewed on a daily basis, and published weekly in the "Weekly Regulatory Update," will include newly promulgated environmental Notices, Notices of Proposed Rulemaking, Proposed Rules, and Final Rules (Regulations) published in the Federal Register and the Colorado Register. (Regulations issued by the Occupational Safety and Health Administration [OSHA] and

the DOT are not within the scope of the current program.) Information on regulations is gathered through the Colorado Register, which is the official Colorado publication for Notice of Proposed Rulemaking and Final Regulations, and the Federal Register, a daily publication of federal agency newly promulgated Notices, Notices of Proposed Rulemaking, Proposed Rules, and Final Rules (regulations) of government agencies.

In addition to collecting, identifying, and analyzing proposed, changed, and new environmental requirements, the program includes identifying and notifying the specific AGMs and director(s) responsible for compliance with the requirements, and assisting those managers in their efforts to achieve and maintain compliance. Additional goals of the program include providing a single point of contact for environmental compliance information, and providing AGMs and directors with information on compliance issues, solutions and suggestions to incorporate new environmental requirements into plant policies, procedures, plans, programs, practices, and training programs.

While a mature requirements identification program is essential for any successful environmental compliance program, better coordination and communication will be required for the program to be fully successful on plantsite.

3.2 Permitting and Agreements

Various permits and agreements apply to RFP operations. The following sections describe the major agreements and permits applicable to RFP.

3.2.1 Agreement in Principle (AIP)

DOE and the Colorado Department of Health (CDH) entered into the AIP on June 28, 1989. In this agreement, DOE committed to an expanded environmental monitoring program at RFP, an acceleration of cleanup activities at some contaminated sites, several initiatives for achieving a more comprehensive environmental management system at RFP, and allocation of additional funds to the State of Colorado to administer RFP oversight programs. The agreement is designed to ensure citizens of Colorado that public health, safety, and the environment are being protected through accelerated existing programs and substantial new commitments by DOE, and through vigorous programs of independent monitoring and by Colorado officials. Full implementation of activities initiated under the AIP is an ongoing effort. The AIP does not contain enforceable milestones.

3.2.2 Interagency Agreement (IAG)

The IAG for environmental restoration activities at RFP was signed on January 22, 1991, by DOE, EPA, and CDH. Officially called a Federal Facility Agreement and Compliance Order, the agreement replaced the 1986 RCRA-CERCLA Compliance Agrement and clarifies responsibilities and authorities of the three agencies, describes the procedures to be followed, and sets timelines for completion of various activities for study and cleanup of past contamination at RFP. The agreement outlines each agency's role in, and integrates the authority/jurisdiction of, RCRA and CERCLA over the study and cleanup process. It also provides mechanisms for resolving issues that may arise among the participants during cleanup activities. The IAG and Five-Year Plan (FYP) are the principal documents guiding RFP cleanup efforts.

The draft IAG was issued for public comment in December 1989 and submitted for official approval in August 1990, with changes reflecting comments received from the public. The final IAG is substantially the same as the draft IAG. The most visible modifications were the reprioritization of the RFP operable units (OUs) and changes in the OU milestone schedules. The OU reprioritization necessitated adjustments in the timelines associated with the OUs to reflect more realistic schedules for completion of the various studies required. The IAG requires that DOE notify the public of any schedule changes to those set forth in the final IAG. The final IAG also stipulates that various additional measures be taken for improved public involvement and directs DOE to address these public involvement commitments in the Community Relations Plan. Following are the specific purposes of the IAG.

- Identify Interim Remedial Actions (IRAs), if any, that are appropriate at RFP sites prior to implementation of final remedial actions for the sites.
- Establish requirements for performing a RCRA Facility Investigation/Remedial Investigation (RFI/RI) and for performing a Corrective Measures Study/Feasibility Study (CMS/FS) for each OU at RFP in accordance with CERCLA, RCRA, and the Colorado Hazardous Waste Act.
- Identify the nature, objective, and schedule of response actions to be taken at RFP.
- Ensure compliance with federal and state hazardous waste laws and regulations for matters covered by the IAG.

The IAG serves as the controlling document for ERM; ERM manages the cleanup and environmental restoration of RFP. The IAG lays out milestones to the year 2004. ERM activities currently generate hazardous and mixed wastes (drill cuttings, gloves, equipment) and require extensive analytical support. As RFP decontamination activities continue, additional hazardous and mixed waste will be generated that will require management in accordance with RCRA requirements.

3.2.3 National Pollutant Discharge Elimination System/Federal Facilities Compliance Agreement (NPDES/FFCA)

The NPDES/FFCA was signed on March 25, 1991, by DOE and EPA Region VIII. The FFCA incorporated changes to NPDES monitoring requirements and required submittal of three compliance plans that address administrative and physical changes to the plant.

Revisions to NPDES monitoring requirements include changing one "point of compliance" location from Pond B-3 to the Sewage Treatment Plant (STP) discharge for most parameters. Monitoring requirements for total chromium and whole effluent toxicity (WET) at the terminal ponds and monitoring for metals, volatile organic compounds (VOCs), and WET at the STP discharge were also added.

Three compliance plans were submitted in accordance with the agreement: the Groundwater Monitoring Plan for the STP Sludge Drying Beds, the STP Compliance Plan, and the Chromic Acid Incident Plan and Implementation Schedule. The FFCA also requires submittal of quarterly progress reports to EPA to update the status and schedule of projects within each compliance plan.

3.2.4 RCRA Part A and B Applications and Permits

RCRA regulations became effective in 1980 and required existing facilities storing, treating, or disposing of hazardous waste to submit a Part A application that identifies those hazardous waste operations. Part A allows the facility to continue to operate without having to submit a detailed application and wait for regulatory approval. Part A requires information such as name, mailing address and location of the facility, brief description of the nature of business, listing of all existing environmental permits, maximum and average processing rates, storage capacities, and a description of waste being stored, treated, or disposed. Part A does not require detailed design information for the storage units or treatment processes.

Following submittal of the Part A, a Part B permit application must be submitted to the regulators including detailed information of the construction and operation of storage, treatment, and disposal facilities. Also included in the Part B application is information on waste analysis, procedures to prevent hazards, contingency plans, and closure plans. The Part B application must go through a public comment period and be approved by the regulators prior to issuing the Part B operating permit. Once issued, the permit contains conditions that must be adhered to in order to avoid fines and possible loss of the permit. Part B permits are issued by the CDH.

RFP has submitted a series of Part A and Part B permit applications to the EPA and CDH since 1985. In October 1991, RFP received its first Part B RCRA Operating Permit for nine hazardous and low-level mixed waste storage areas. Since that time, 10 Part B permit modification requests have been submitted to CDH. Six of these requests have been approved, adding six additional storage areas and made other minor changes to the permit.

3.2.5 RCRA Settlement Agreement and Compliance Order on Consent No. 89-10-30-01

On November 3, 1989, the DOE, CDH, and EPA signed the Settlement Agreement and Compliance Order on Consent No. 89-10-30-01 regarding alleged violations of the RCRA hazardous waste regulations pertaining to proper waste management of residues. RFP has submitted documents in compliance with this Consent Order, including the Mixed Residues Compliance Plan.

The Mixed Residues Compliance Plan was prepared to meet the requirements of the Settlement Agreement and Compliance Order on Consent, as well as to provide a schedule for compliance with the conclusions of the United States District Court for the District of Colorado in the Civil Action No. 89-B-181, Sierra Club, Plaintiff, vs. United States Department of Energy, and Rockwell International Corporation, Defendants. The Mixed Residues Compliance Plan included actions to bring residues into compliance with the Colorado Hazardous Waste Regulations found in 6CCR1007-3 Parts 100, 262, and 265, methods to minimize generation of RCRA-regulated residues, and actions to reduce the amount of RCRA-regulated residues in storage.

On July 31, 1991, CDH issued to RFP Compliance Order No. 91-07-31-01, known as the Residue Compliance Order (RCO), which indicated that the Mixed Residues Compliance Plan was inadequate and therefore violated the November 1989 order. In addition, on August 1, 1991, the CDH filed a federal complaint in court, alleging that the DOE had submitted an inadequate plan in violation of the November 1989 order and directing the DOE to meet the terms of the RCO. Compliance Order No. 91-07-31-01 specifies a schedule for removing all backlog mixed residues

from RFP by January 1, 1999, and a schedule by which mixed residues will be brought into physical and administrative compliance with the Colorado Hazardous Waste Regulations. A negotiations process is continuing to settle the lawsuit and amend the RCO.

3.2.6 Federal Facilities Compliance Agreement (FFCA) for Land Disposal Restricted (LDR) Waste

A compliance order on consent was signed on September 19, 1989, by DOE, EPA Region VIII, and the State of Colorado to provide a 1-year period for DOE to work toward compliance with the land disposal restrictions of the Hazardous and Solid Waste Amendments of 1984 for mixed wastes. The FFCA covers radioactive wastes that were prohibited as of the FFCA effective date, which includes wastes containing solvents and dioxins that do not meet the treatment standards specified by EPA, or "California List" wastes containing hazardous constituents above the applicable allowable levels for land disposal. During the period of the original agreement, DOE was to take all feasible steps to ensure the accurate identification, safe storage, and minimization of restricted waste prohibited from land disposal.

A new agreement, commonly referred to as FFCA-II, was signed on May 10, 1991, by representatives from EPA and DOE. This new agreement is an expansion of the original September 1989 agreement, and again provides the mechanism for DOE to achieve compliance with the Land Disposal Restricted (LDR) portion of the RCRA regulations. FFCA-II is valid for a period of 2 years (expiring in May 1993), during which time DOE will continue to put in place those physical and administrative controls necessary to demonstrate compliance with LDR. Specific milestones and schedules will be prepared to demonstrate that proposed activities are planned to bring RFP into compliance with LDR requirements.

3.2.7 Radionuclide NESHAPs Administrative Compliance Order (ACO)

In March 1992, EPA Region VIII issued EG&G Rocky Flats, Inc., an Administrative Compliance Order (ACO) under Section 113 of the CAA. The ACO requires EG&G Rocky Flats, Inc., to bring all 63 radionuclide effluent ducts into compliance with the monitoring protocol of 40 CFR 61.93(b) within 1 year from the effective date of the order (March 15, 1992). EG&G Rocky Flats, Inc., was ordered to complete four investigative projects (as-built duct drawing project, particle size project, isokinetic sampling study, and port installation and velocity profiling study) by December 10, 1992. EG&G was also required to complete and submit to EPA Region VIII duct assessment reports (DARs) by January 9, 1993, perform any required physical upgrades by March 15, 1993, and submit quarterly status reports on EG&G's progress.

EG&G completed all the mandated projects and submitted the DARs to the EPA on December 18, 1992. The DARs detail RFP compliance for 61 of 63 radionuclide effluent air emission points and associated sampling systems. Alternate sampling methodology approval is being requested for the two remaining locations. EG&G is currently awaiting EPA review of the DArs and their concurrence on RFP's compliance status. Any corrective actions for compliance deemed necessary by the EPA will be negotiated through a Consent Decree or FFCA.

3.2.8 Air Pollutant Emission Notice (APEN) Notice of Violation (NOV)

Under the provisions of the AIP, DOE agreed to submit a comprehensive air emissions baseline inventory of nonradioactive air pollutants to the CDH Air Pollution Control Division (APCD). The

regulations that control air emission inventory reporting are based on the Air Quality Control Commission's Regulation No. 3 and mandate the submission of APENs for sources that emit air pollutants to the atmosphere. A preliminary survey conducted during 1989 by the CDH APCD of the approximately 450 plant structures, targeted 102 facilities and operations for APEN review.

On February 2, 1990, the CDH APCD issued APEN reporting guidelines to the RFP, which included the submission of source specific process and operational information for all activities within the targeted 102 facilities, the quantity and composition of expected emissions, and complete building drawings that provided a comprehensive vent identification. Although this project had been initiated immediately following the 1989 AIP, the major focus of project operations occurred between January 1991 and its completion in June 1991. Additional information is provided on the baseline air emission inventory in Section 4.2.3 of this document.

During the 1990-91 APEN review of building operations, RFP was issues three NOVs for failure to meet the requirements of Colorado Air Quality Regulations No. 3 and No. 7. The NOV citations were successfully addressed during 1991 by demonstrating compliance with the appropriate regulatory provisions.

3.3 Interpretation of Regulations

Laws and regulations often require an interpretation of the law's intent or their applicability to a particular facility such as RFP. Regulatory agencies may interpret requirements differently than the DOE or EG&G, and even specific programs within a regulatory agency may not agree on certain issues. Negotiations that eventually led to the completion of the IAG among the DOE, EPA, and CDH required a resolution of which agency had authority over which cleanup or remediation sites, and even whose cleanup standards would apply to a particular remediation site. In addition, DOE HQ may have an interpretation that is different from that of DOE RFO or EG&G. The various laws provide processes for dispute resolution, but the processes are not consistent and vary for each law (e.g., RCRA, CERCLA/IAG, NEPA, CAA).

The EG&G Legal Department (see Figure 1-3) participates in planning sessions, assists in negotiations with regulatory authorities, helps draft and transmit correspondence to the DOE or regulatory authorities, and provides clarification on regulatory issues. It helps interpret whether a particular requirement applies to RFP, how it applies to RFP, and provides information on how to translate a law or requirement to programmatic and line-level personnel and management.

The Legal Department can provide regulatory interpretation assistance, but has limited resources available. Of the six attorneys within the department, three are involved in environmental law. Typically, the Legal Department will address issues identified by operational organizations on an *ad hoc* basis. Legal relies on the individual organization or manager to identify the facts, issues, or questions that may be related to environmental or waste compliance within a particular operation. Legal counsel is then provided on specific questions. There is no system currently in place to automatically include Legal in the compliance process; it can only provide support to those who request it. There is no system in place to give floor-level workers preliminary guidance.

4 ENVIRONMENTAL AND WASTE MANAGEMENT

Within Environmental and Waste Management (see Figure 1-3 and Figure 1-5), compliance is generally managed through specific programs aimed at protecting the air, water, and the environment, and managing hazardous and radioactive waste in conformance with requirements. Compliance responsibilities are divided among Waste Programs, Environmental Protection Management (EPM), Waste Operations, Analytical Laboratories, and Technology Development (TD) (see Figure 1-5). Following are their major regulatory responsibilities.

Waste Programs

- Resource Conservation and Recovery Act (RCRA) Regulatory Programs
- Toxic Substances Control Act (TSCA)
- Medical Waste Programs
- Spill Response and Reporting
- Excess Chemical Program
- Land Disposal Restricted (LDR) Federal Facilities Compliance Agreement (FFCA)
- Radioactive Waste Program
- Waste Minimization
- Waste Identification and Characterization

Environmental Protection Management

- Clean Water Act (CWA)
- Clean Air Act (CAA)
- National Environmental Policy Act (NEPA)
- Superfund Amendments and Reauthorization Act (SARA)
- Radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPs)
- Beryllium NESHAPs
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).
- Emergency Planning and Community Right-to-Know (EPCRA)
- NPDES/FFCA

Technology Development

- Waste Technical Support
- Environmental Technology
- Waste Projects
- Technical Investigations
- Program Support

Waste Operations

- Regulated Waste
- Liquid Waste Systems, and Liquid Waste Processing
- Waste Operations Support
- Solid Waste Processing
- Waste Assay and Shipping
- Waste Solidification

Analytical Laboratories

- General Inorganic and Radiochemistry Laboratories
- Environmental Radiochemistry
- Bioassay

4.1 Waste Programs

The Waste Programs director reports to the AGM of E&WM and is responsible for several regulatory programs. Among these are RCRA Regulatory Programs, TSCA, Spill Response and Reporting, Radioactive Waste Programs, Waste Identification and Characterization, and Waste Minimization. Figure 4-1 illustrates Waste Programs divisions. The following sections provide a summary of the major Waste Programs groups and their responsibilities.

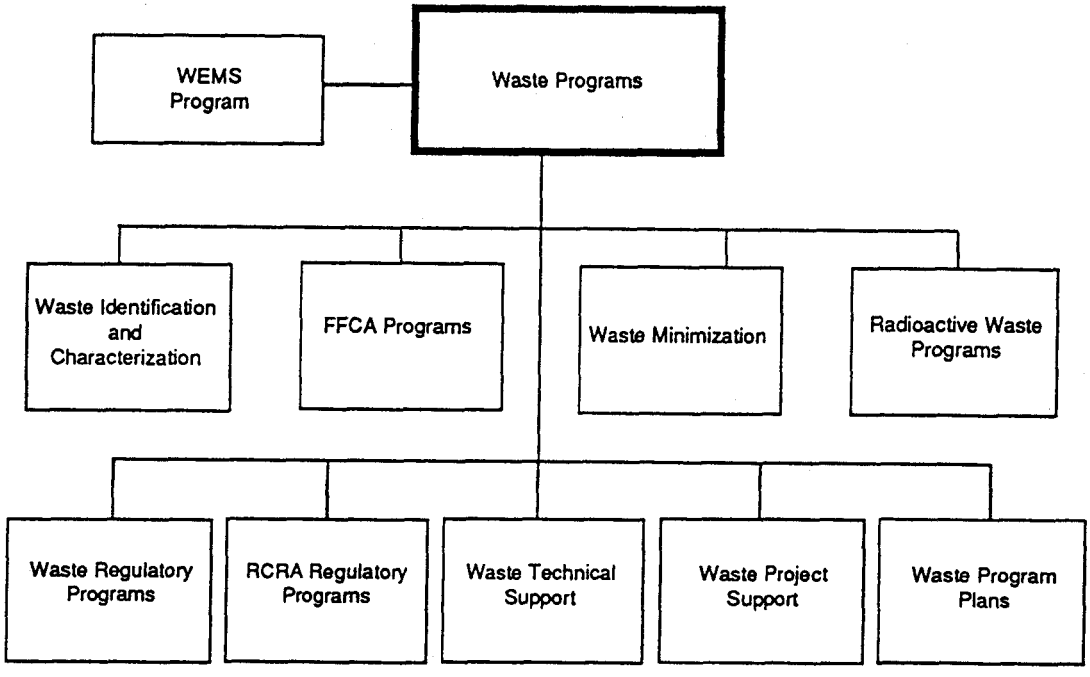

Figure 4-1 Waste Programs

4.1.1 Waste Technical Support

The Waste Technical Support organization is the key group that provides "on-the-floor" regulatory guidance to waste generators and custodians. Waste Technical Support responds to requests for guidance on waste characterization and packaging issues, on implementation and interpretation of state and federal regulations, permit conditions, compliance agreement and compliance order

conditions, and requirements of interim status. This organization is the implementation arm for Waste Programs and serves as a liaison between Waste Programs and Waste Operations.

4.1.2 Toxic Substances Control Act (TSCA)

The TSCA program at RFP is based on compliance with the regulations for polychlorinated biphenyls (PCBs). RFP does not manufacture chemicals; therefore, the TSCA regulations for chemical manufacturers do not apply. Additionally, the regulations for asbestos only apply to employees of the government; therefore, the asbestos section under TSCA does not apply to EG&G Rocky Flats, Inc.

Waste Regulatory Programs (WRP) has the overall responsibility for the administration of the TSCA program at RFP for the management of PCBs and PCB wastes in accordance with the TSCA regulations. Electrical Services, within the Plant Services directorate (see Figure 1-8), is responsible for the identification and management of their equipment, which in some cases contains PCBs. All electrical equipment (transformers) outside of buildings managed by Electrical Services, except for electrical equipment in the buffer zone. Equipment in the buffer zone is owned by the Public Service Company. Electrical Services identifies, maintains, inspects, and documents activities for their transformers and electrical equipment. WRP provides direction and guidance to Electrical Services on PCB regulations to ensure compliance to TSCA.

Equipment that may contain PCBs within buildings is managed by the respective building managers. Basically, the building managers have the same responsibilities as Electrical Services personnel for the identification, maintenance, inspection, and documentation of equipment containing PCBs or contaminated with PCBs. WRP provides direction and guidance to building personnel on PCB regulations to ensure compliance with TSCA.

ERM is responsible for the identification of past PCB spill sites, and for incorporation of these sites into the IAG. WRP works with ERM on any issue that may involve the IAG or ground remediation from historical releases.

4.1.3 Medical Waste Tracking

The Medical Waste Tracking program in place at RFP is designed to provide employees with regulatory guidance/overview for the management of medical and infectious waste. The program includes a plan that details requirements and recommended best management practices for the generation of medical/infectious waste. Proper management of this waste ensures that infectious waste is handled in accordance with established procedures from the time of generation through treatment of the waste (to render it noninfectious) to its ultimate disposal.

The Medical/Infectious Waste Management Plan applies to all buildings at RFP and the Oxnard facility, and applies to all employees and contractors who work at either facility. The plan also includes requirements for the management of medical/infectious waste generated during offsite emergency medical treatment of employees. Areas affected by the plan include Occupational Health, the Urine Laboratory, Bioassay Laboratory, Possible Inhalation (PI) Laboratory, Health Effects Department, Fire Department, Protective forces, and RFP personnel requiring medical attention.

4.1.4 Spill Response and Reporting

Providing support to individuals and groups responsible for responding to and reporting of environmental occurrences at RFP is the primary function of the Spill Response and Reporting Program, which is organized under the Waste Programs group of E&WM. A dual reporting system is currently in place at RFP, where Spill Response and Reporting is responsible for ensuring that regulatory authorities are informed, while the operations managers are responsible (through the Occurrence Notification Center) to report occurrences to DOE RFO and DOE HQ.

A Spill Response and Reporting Guidebook has been developed to help ensure timely notification to an offsite regulatory agency of an unplanned release, event, or condition per the notification requirements of environmental law or permit conditions, including the CWA, CAA, RCRA, CERCLA, SARA (also known as EPCRA), TSCA, and Hazardous Materials Transportation Act (HMTA). The use of the guidebook applies to the Waste Regulatory Programs, Waste Technical Support, and Waste Identification & Characterization personnel. Reporting may be initiated for unplanned releases discovered at RFP involving a hazardous material (including oil and petroleum products); a hazardous substance (including hazardous waste and radionuclides); or a nonhazardous substance (e.g., water) containing a hazardous constituent. It also applies to other environmental occurrences involving events or conditions that are reportable to an offsite regulatory agency and/or to the DOE RFO. It applies to actions initiated from discovery of an unplanned release, event or condition, through the offsite regulatory notifications, and finally to containment and cleanup activities.

In the event of a spill or unplanned release, the employee who first discovers the release alerts his or her supervisor, who reports it up the chain of command, including to the operations manager, who notifies the Shift Superintendent and contacts the onsite Occurrence Notification Center (ONC). Any calls made to the ONC that involve an occurrence that has or may impact the environment are referred to the Spill Response and Reporting Program via an on-call list of personnel. The WRP on-call representative informs the ONC whom to notify concerning the release, such as the CDH, the EPA, the National Response Center, the state Oil Inspector, the Local Emergency Planning Committee (in Boulder and Jefferson Counties), and/or the State Emergency Planning Commission. Notifications required by a regulation or a permit generally are verbal, followed by a written follow-up. The on-call WRP representative is also responsible for providing cleanup and packaging guidance to the supervisor responsible for the cleanup. Historically, an average of 43 calls are received by Spill Response and Reporting every month. Of those, approximately 12 are generally reportable internally or externally. Personnel currently assigned to the group total 3 1/2 FTE (full-time equivalent). Spill Response and Reporting is constantly attempting to educate personnel on reporting, as well as working to prevent spills by investigating incidents and documenting lessons learned to prevent a recurrence.

A potential gap in reporting releases to DOE may exist if the proposed revised Contingency Plan is approved by the CDH. The revised Contingency Plan provides that offsite notifications will not be necessary if a spill is fully contained within a building. If the plan is eventually approved and finalized, DOE RFO would not need to be notified of spills that occur inside a building, based on the criteria provided in DOE Order 5000.3A (Occurrence Reporting). EG&G is currently awaiting DOE guidance on this issue.

Training of personnel on the floor is essential for the Spill Response and Reporting program to be fully successful. At present, many employees do not always know or understand what constitutes

a release. For example, is it a release if a tank located inside a glovebox leaks, but the material does not escape the glovebox? If the material is not cleaned up, that could be considered as improper storage if solids precipitate on connections but do not fall to the floor. The number of reported releases has been increasing recently, because personnel are more cognizant of requirements and are making a more concerted effort to report releases.

4.1.5 Excess Chemical Program

The Excess Chemical Disposition Program is an organized, comprehensive, and continuous effort to systematically manage excess chemicals. In an industrial manufacturing facility such as RFP, a chemical management program is an important link to providing increased protection of public health and the environment. Chemical management focuses on identifying the amounts and toxicity of hazardous waste materials generated from any process or other plant activity, limiting their production or procurement, and providing for their final dispositioning. The primary goals of the Excess Chemical Disposition Program are: (1) limit the use of all forms of hazardous chemicals/substances and environmental pollutants to the lowest levels practicable, (2) reduce waste management and regulatory compliance costs, (3) reduce raw material usage, (4) reduce waste inventories and releases of hazardous chemicals, and (5) provide for increased worker safety (see also Section 4.2.6, Emergency Planning and Community Right-to-Know Act [EPCRA]).

The program currently is budgeted for 2.5 FTE. Because of the initial time required in developing administrative controls, plantwide support has been limited on a priority basis.

4.1.6 Federal Facilities Compliance Agreement (FFCA) for Land Disposal Restricted (LDR) Wastes

The FFCA Program organization is responsible for developing and implementing LDR compliant waste management and treatment systems, and performs programmatic functions designed to ensure that RFP manages all hazardous and mixed wastes in compliance with LDR requirements and compliance agreements. The specific scope of FFCA Programs is to ensure that existing LDR/FFCA terms are met, to ensure that ongoing needs are identified, integrated, and implemented, and to ensure that treatment technologies are developed in support of these requirements. Compliance includes delivery of documents specified in the FFCA agreement and development and implementation of treatment systems and waste management systems to provide a long-term solution for compliance with the LDR regulations.

The Comprehensive Treatment and Management Plan (CTMP) presents the largest portion of work required. The other compliance plans required by the FFCA include the Nonradioactive Hazardous Waste Certification and Disposal Plan and the Annual LDR Progress Report.
The FFCA Programs group interfaces with the Technology Development (TD) organization within E&WM. TD serves in a research and development capacity to develop treatment technologies to achieve LDR compliance.

4.1.7 Radioactive Waste Programs

The Radioactive Waste Programs organization provides development and implementation of systems to ensure proper management of radioactive and mixed waste. Implementation and

maintenance of these systems will direct treatment, packaging, storage, certification, transportation, and disposal of RFP radioactive waste to ensure compliance with all requirements. Interface with other Waste Programs organizations is required for overlapping requirements such as RCRA and TSCA.

Radioactive Waste Programs provides periodic reports in the following areas.

- Low-Level Waste Management
- TRU Waste Management
- Waste Isolation Pilot Plant (WIPP) Experimental Waste Program
- Low-Level Waste Backlog
- Low-Level Asbestos Waste Management
- Radioactive Waste Storage Inventory Management

The organization is divided into four functional areas to meet specific program implementation requirements: (1) TRU Waste Management, (2) Low-Level Waste Management, (3) Packaging and Inventory Management, and (4) Program Field Implementation. The Program Field Implementation group is responsible for implementing program requirements in plant operating areas and provides continuing guidance to plant personnel.

4.1.8 Waste Projects Support

The Waste Projects Support organization provides project management and implementation support to E&WM. Activities are divided into the following four broad functional categories.

- *Prefunding guidance*, which involves initiation and tracking of predecisional activities associated with new and proposed capital projects.
- *Capital project management*, which provides a program manager with overall responsibility for completion of the capital project.
- *Technical services*, which involves providing project oversight, coordination, and user technical input for major engineered systems, and evaluating existing waste processes and equipment to determine methods for improvement.
- *Waste Management procurement and subcontracts*, which serves as the central point of contact for all Waste Programs subcontracts and ensures compliance with procurement policies and procedures.

The group interfaces with Technology Development, Facilities Engineering, Facilities Project Management, Waste Operations, and Central Planning. The group also ensures compliance with all applicable regulatory requirements, DOE orders, and EG&G procedures.

4.1.9 RCRA Regulatory Programs

The RCRA Regulatory Programs organization is responsible for establishing and maintaining plantwide programs to ensure compliance with state and federal RCRA regulations regarding hazardous waste generation and management. Compliance activities include (1) identifying, reviewing, and implementing new RCRA regulatory requirements, (2) modifying the RCRA Operating Permit and Interim Status documentation to include facility and operational changes and

new units, (3) creating and updating requirements manuals, quality plans, and training programs, (4) preparing and implementing closure plans for active RCRA units, and (5) responding to a variety of regulatory agency and DOE requests for reports, information, and meetings concerning RCRA issues. The group is also responsible for conducting design review of engineering packages and serving as "subject matter experts" for RCRA training programs and RCRA requirements documents.

RCRA guidance and support to the plant operating areas is provided separately by the Waste Technical Support group (see Section 4.1.1).

4.1.10 Waste Minimization Program

The Waste Minimization Program organization manages a range of programs and projects to reduce waste and other forms of environmental pollutants generated by RFP operations. This organization defines, develops, and implements systems/processes that translate waste minimization and pollution prevention requirements to all RFP organizations. The group identifies RFP needs and priorities, assesses the technical and economic feasibility of waste minimization alternatives, and evaluates commercially available technologies for application to plant operations. They also develop and maintain program plans, work packages, activity data sheets, and other documents to establish annual scope, cost, and schedule information. The organization establishes plantwide goals for waste reduction and maintains measurement and reporting systems to track plant progress against established goals. They also develop and maintain information and technology exchange programs to share waste minimization experiences with regulatory agencies, DOE production/testing facilities, national laboratories, and the private sector.

Program staff members work directly with RFP waste generators to execute waste minimization efforts. Additionally, the program organization promotes awareness of waste minimization/pollution prevention practices and principles to all plant employees through training, incentives, awards, and special campaigns.

4.1.11 Waste and Environmental Management Systems (WEMS) Programs

The WEMS Programs organization furnishes system administration, design, development, maintenance, software quality assurance, and technical support for automated data systems in support of the E&WM organization. The scope of support provided includes tracking waste related activities from empty container receipt through waste generation, treatment processing, waste parameters, and quantities of waste shipped offsite. Other system support requirements include maintenance of historical waste data, RCRA organic air emissions data management, and liquid waste tracking.

The WEMS Programs organization interfaces with the Information Resources organization to obtain support in programming, VAX platform, and database management to ensure system security and data integrity.

4.1.12 Waste Programs Plans

The Waste Programs Plans organization assists in the development of systems and documents that provide the controls necessary to comply with Quality Assurance (QA) requirements established by

EG&G, DOE, and the waste disposal sites. The group is responsible for (1) providing programmatic support to Waste Programs organizations for creation of program management plans that comply with QA requirements, (2) providing central support to the director of Waste Programs to ensure coordination of plans and procedures, and (3) providing support in the development of process control plans to ensure that operations comply with requirements of the Waste Management Plans and QA requirements. The scope of performance of the Waste Programs Plans group is all programs and operations at RFP that handle or manage wastes. The group provides engineers to waste programs project teams to assist in identifying the required QA procedures and systems. The group is also tasked with development of a comprehensive waste management plan, maintenance of the Waste Management Quality Assurance Program Plan (QAPP), final development and implementation of the Process Control Procedure, and miscellaneous functions in support of continued maintenance of the QA program for waste management.

4.1.13 Waste Identification and Characterization

The Waste Identification and Characterization organization establishes, develops, and executes a variety of projects to ensure compliance with specific waste characterization and analytical requirements. The organization is divided into the following six functional groups described below.

- The Waste Stream and Residue Identification and Characterization (WSRIC) group is responsible for the identification and characterization of all wastes and residues generated at RFP.
- The Waste Sampling and Analysis group performs activities related to obtaining chemical analysis of all wastes and materials generated or managed at RFP. Chemical analysis is required to characterize wastes and to verify land disposal restriction status of wastes and residues.
- The Analytical Method Development group coordinates efforts to develop methods for waste analyses that do not already exist for waste forms specific to RFP.
- The TRU/Residue Characterization group is responsible for activities that support the WIPP program manager and the Residue Elimination Program.
- The Low-Level Waste (LLW)/Sanitary Hazardous Waste Characterization group is responsible for characterization of the backlog LLW and sanitary waste.
- The Special Waste Characterization group supports the Medical Waste program, deals with oil characterization issues, prepares reportable quantity tables and nonroutine waste origination logs, and supports any other special waste characterization issues that arise.

4.2 Environmental Protection Management (EPM)

The director of Environmental Protection Management (see Figure 4-2) reports to the AGM of E&WM. Among major programs within EPM are the Clean Water Act, Clean Air Act, National Environmental Policy Act, SARA, and Beryllium Radionuclide National Emission Standards for

Hazardous Air Pollutants, FIFRA, EPCRA, and NPDES/FFCA. The following sections provide a summary of the activities performed by EPM programs.

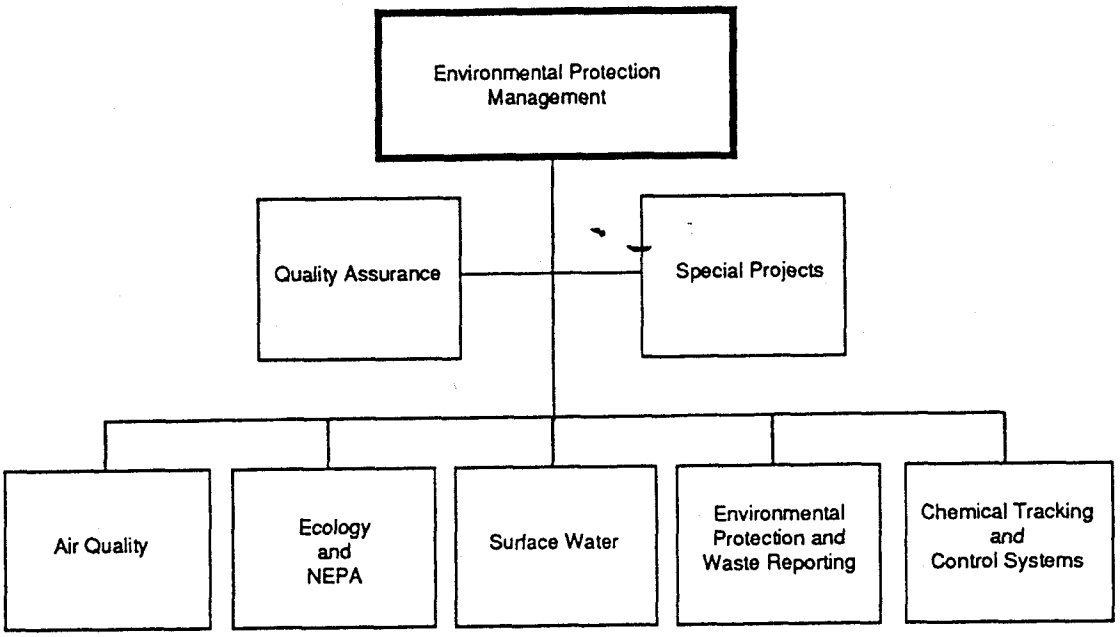

Figure 4-2 Environmental Protection Management

4.2.1 Clean Water Act (CWA)

Compliance with the CWA is currently maintained by four separate program efforts, all working within the Regulatory Programs group of the Surface Water Division (SWD). Requirements of the CWA are identified primarily through the National Pollutant Discharge Elimination System (NPDES) permit issued to RFP by the EPA. Related compliance programs are based on the FFCA relative to the NPDES permit, stormwater regulations being added to the NPDES program at the federal level, and the Spill Prevention, Containment and Countermeasures/Best Management Practices (SPCC/BMP) document required as a condition of the NPDES permit.

The organizations performing subtasks for SWD are the suppliers of analytical information (subcontractor sampling crews, and laboratories both on and offsite) and those providing technical expertise in support of various phases of compliance efforts (e.g., Legal, statistics, publications). Within SWD, 14 personnel are assigned to the Regulatory Programs group in support of the associated NPDES, FFCA, and SPCC/BMP work. Resources available are budgeted funds and personnel for sampling and analytical work, other onsite surveillance, upgrades to the Wastewater Treatment Plant (WWTP), and plantwide spill control procedures, hazard identification and prevention, participation in regulatory activities such as rulemaking hearings and permit negotiations, and identification of new compliance issues both in state and federal forums.

SWD requires submission for review of all new plantsite processes, projects, or procedures that might impact CWA compliance. Notification to SWD of possible issues is ensured through steps included in engineering review and approval procedures, and plantwide surveillance by 12 SWD personnel assigned to watershed management and source control activities. Current source control projects include the Drain Identification Study, a review of proposed changes to the Building 374 Evaporator influent and effluent streams, activities under several IM/IRAs, and non-stormwater discharges such as footing drains and building sumps.

Possible needs identified include extensive upgrades to the WWTP in anticipation of stricter standards in the next NPDES permit issued to the plant. These upgrades may be for the WWTP only (nitrification/denitrification, piping effluent to another discharge point) or involve the entire water management system at RFP through new water storage and conveyance structures designed to control discharges into surface waters on plantsite. The extent of necessary changes will determine future needs in staff and budgeting. Short-term upgrades are experiencing difficulty in completion due to conflicting regulatory interpretation and control (maintenance of dams and the South Interceptor Ditch, landfill pond water management).

4.2.2 Clean Air Act (CAA)

The Air Quality Division (AQD) within E&WM has approximately 25 personnel and is responsible for reporting all air emissions and comparing them to applicable standards in order to comply with EPA and CDH air permitting and monitoring and with the requirements of the CAA. The CDH APCD has primacy over air emissions at RFP, with the exception of radionuclides, which fall under the jurisdiction of the EPA. An APEN program is in place within the AQD. The APEN program is an ongoing and evolving process that requires continuous updates of nonradioactive air emissions throughout plantsite (see Section 4.2.3). Any changes in operations, new construction activities, or modifications that may result in a release of air emissions must be reported to the AQD, which reports the information to the CDH APCD.

Monitoring programs, including ambient air monitoring and monitoring of stack emissions, are currently in place for radiological emissions and are being scoped for nonradiological emissions. The AQD actively evaluates pending and existing air regulations, and presents comments to CDH-APCD and EPA authorities, as well as DOE RFO staff and management.

Key projects include upgrades to the stack effluent monitoring program to support compliance with the radionuclide National Emission Standards for Hazardous Air Pollutants (NESHAPS - 40 CFR 61, Subpart H), development of an Air Emissions Database to store updated air emissions inventory for non-radiological and hazardous air pollutants, upgrades to the Radioactive Ambient Air Monitoring Program (RAAMP) samplers, and development of a plan and inventory to control chlorofluorocarbon (CFC) emissions.

The AQD interacts most frequently with several organizations including Legal, Engineering, Facilities Project Management, Technology Development, Procurement, Training, Employment, and the Analytical Laboratories. The AQD has made contact with the key departments and building managers on plantsite to ensure that the division is alerted when any potential air quality issues arise. This program is ongoing and enhances the accuracy of the AQD permitting documents.

Short-term improvements that will have long-term effects include upgrading the RAAMP samplers, developing a comprehensive air emissions database, upgrading the stack effluent monitoring

program, upgrading the hazardous air pollutant emission inventory, and implementing a plantwide plan to reduce ozone depleting emissions (for refrigerants and chiller units).

4.2.3 Air Pollutant Emission Notice (APEN)

The State of Colorado has primacy for regulating nonradionuclide air pollutant emissions as defined under the state and federal CAA. As a result, enforcement, maintenance, and implementation of the air regulations have been delegated by the state to the CDH, APCD. Under the provisions of Colorado Air Quality Regulation No. 3, the CDH must receive an APEN for any existing or new source of air pollutants resulting from construction or alteration of any facility, process, or activity from which regulated air pollutants are emitted. APENs provide source specific data, an estimate of the quantity and composition of the air emissions generated from source operations, and furnish supporting information for Colorado Air Permit regulations. When viewed as a related body of information, APENs make up the RFP nonradionuclide air emission inventory and reflect the dynamics of plant operations. The state then uses the information reported on the APENs to build its statewide inventory of air pollution sources, determine the most cost-effective regulatory strategies, target regulatory efforts, meet federal inventory requirements, and implement the annual emission fees program.

Approximately 240 APENs have been filed with the state during the last 3 years, including the baseline air emission inventory completed in June 1991. Under the June 1989 AIP between the DOE and the CDH, RFP was required to complete a baseline air emission inventory of plant operations and submit inventory data to the CDH by June 1991. Between June 1989 and June 1991, RFP conducted an air emission survey of plant activities, evaluated process operations, and prepared APENs and supporting building/process documentation for submittal to the CDH. Since the completion of this initial effort, the Air Quality Division (AQD) has provided additional APENs for new or modified plant operations.

Colorado Senate Bill 105, signed into law in June 1992, amended the Colorado Air Quality Control Act to comply with and implement the Federal CAA Amendments of 1990. One of the new provisions of the revised state Act is the requirement for all existing sources within the state to file updated APENs with current operational information. Additionally, the provisions of the Act contain both new APEN reporting thresholds and expanding reporting requirements. The regulatory due date for updated APENs for sources of criteria pollutants was December 31, 1992; sources of hazardous pollutants are deferred until December 31, 1993.

During the last 4 months of 1992, the AQD conducted field investigations of RFP facilities and support operations and evaluated current operations and pending needs for transition against the existing baseline air inventory on file with the state (240 APENs and 80 APEN Reports). The information provided on the 1992 criteria pollutant APEN Update Forms reflects this assessment. The Colorado Air Pollution Control Division received updated APENs and supporting documentation on December 23, 1992. Sources of hazardous pollutants will be addressed during the remainder of 1993.

At the conclusion of Phase I, 116 APEN Update Forms for criteria pollutants, 1 Permit Application, and 46 supporting APEN Reports were submitted to DOE RFO. The Colorado Air Pollution Control Division received Phase I reports and updated APENs on December 23, 1992.

4.2.4 Colorado Air Quality Permits

Colorado Air Quality Regulation No. 3 mandates that all sources of regulated air pollutants obtain an Air Permit prior to construction, modification, or operation of any building or facility or performance of any activity unless specifically exempted under the law. This regulation specifically exempts from permit requirements all sources in existence prior to February 1, 1972. Because most RFP production facilities and support operations were in existence prior to this date, Colorado Air Permits are not required for these activities; however, all other sources are subject to compliance with the Air Permit regulations. At this time, RFP has 12 Active or Initial Air Permits and approximately 45 Permit Applications on file with the state. As part of the AQD's responsibilities, all qualified new or modified sources of regulated pollutants are evaluated against the regulatory permit requirements to determine qualification for an Air Permit Application.

The 1992 amendments to the Colorado Air Quality Control Act include provisions to comply with and implement all the Federal Clean Air Act Amendments (CAAA) of 1990 and incorporate them into the Colorado State Implementation Plan. As a result of the new statutes, Colorado will develop an operating permit program based upon the federal regulations implementing Title V of the Federal CAAA (which establishes a federally enforceable renewable operating permit program). Under the provisions of these regulations, RFP will need to develop a facility operating permit that includes all emissions limitations and standards applicable to plant sources, record-keeping and reporting requirements, compliance schedules, and provisions to demonstrate that the RFP is in compliance with all applicable requirements of the air regulations. This operating permit could be required by the state as early as July 1994.

4.2.5 Radionuclide National Emission Standards for Hazardous Air Pollutants (Rad NESHAPS)

Radionuclide National Emission Standards for Hazardous Air Pollutants (40 CFR 61, Subpart H) regulates radionuclide emissions from DOE facilities. The regulation specifies effluent air monitoring protocol for determining radionuclide emission to the atmosphere. The regulation was revised in December 1989, which created a possible concern with EG&G's radionuclide effluent air monitoring methodology.

Data for 1991 show the calculated dose from radionuclide building-effluent air emissions from RFP were 4.3×10^{-4} percent of the allowable EPA standard of 0.1 mrem/yr. Radiation doses to the public from RFP operations are well below any regulatory limit and far less than are received from naturally occurring radiation sources in the Denver metropolitan area.

RFP continuously monitors radionuclide effluent air emissions at 63 locations in 17 buildings. The radiological effluent surveillance program uses a three-tier approach including Selective Alpha Air Monitors (SAAMs), Total Long-Lived Alpha (TLLα) screening of routine duct effluent sample filters, and radiochemical analysis of specific radioisotopes collected from effluent particulate samples.

In addition to the determination of duct effluent radionuclide particulate concentrations, gaseous tritium (H-3) is monitored through the collection of H-3 in water-filled bubbler impingers at six locations. These samples are drawn continuously and collected three times per week. Laboratory analyses are conducted on each sub-period sample by counting the low energy electrons released from the decay of H-3.

The EPA issued EG&G Rocky Flats, Inc., an Administrative Compliance Order (ACO) on March 3, 1992. The ACO was issued for procedural violations (monitoring protocol) of the Federal CAA, 40 CFR 61, Subpart H. EG&G was required to complete several investigative studies (effluent air particle size study, isokinetic sampling study, as-built duct drawings study, velocity profiling study, dose screening study, and compliance assessment reporting) and complete all upgrades for compliance by March 15, 1993. EPM completed the projects and submitted all required information to the EPA on December 18, 1992.

Through the investigative projects and ensuing compliance assessment, EPM concluded that 61 of 63 radionuclide emission points and associated radionuclide sampling stations met the sampling protocol of Subpart H. Two of the locations are believed to meet the intent of the regulation and require EPA approval of the alternate sampling methodology used. Only 9 of the 63 radionuclide effluent emission points require continuous effluent sampling based on potential emission levels; the balance of the locations require periodic measurements to confirm low emissions.

The continuous sampling points will continue on the normal sampling and analysis schedule, while the periodic sampling points will have the filters changed monthly. Each of the periodic filters will be screened for TLLα and composited for radiochemical analyses on a 1-year basis.

EPA's concurrence with EG&G's assessment could potentially save millions of dollars in planned upgrades and annual laboratory sample analyses. In the event that EPA disagrees with EG&G's assessment and requires some upgrades to the effluent sampling stations, EG&G has line item resources available to fund equipment replacement or upgrades. The schedule for completing upgrades would be specified in a consent decree between EG&G and the EPA.

Changes in building operations (other than currently foreseen in the RFP transition plan) will affect RFP compliance with 40 CFR 61, Subpart H. New processes or changes in the amounts of radioactive material processed may require changes in the air effluent sampling systems before process operation. Building personnel must support Environmental Monitoring and Assessment Technicians' access to effluent air sampling systems and ducts to collect needed environmental samples and perform air velocity measurement activities. Failure of building personnel to support these activities may result in immediate curtailment of building operations until support is obtained. Continued operation of radionuclide emitting operations could result in potential noncompliance with the Federal CAA.

4.2.6 Beryllium NESHAPs

Beryllium operations at RFP were conducted primarily in Buildings 444, 447, and 865. Beryllium emissions to the atmosphere are regulated by the federal Beryllium NESHAPs regulation, which is enforced by the CDH. Beryllium operations have been greatly reduced since plutonium operations were curtailed in 1989. Beryllium activities are not expected to resume normal operations because of RFP's change in mission; however, RFP continues to monitor for beryllium emissions despite the reduced operations and emissions. RFP is currently evaluating the need for continued beryllium monitoring or source tests with the CDH. Beryllium operations are expected to be transferred from RFP to another weapons complex site.

4.2.7 Emergency Planning and Community Right-To-Know-Act (EPCRA)

EPCRA was enacted as a free-standing provision of the Superfund Amendments and Reauthorization Act (SARA) in 1986. EPCRA, also known as SARA Title III, requires facilities to notify local and state emergency planning entities of the presence of potential hazardous substances in their facilities and to report the inventories and environmental releases of those substances. The intent of requirements is to provide the public with information on hazardous chemicals in their communities, enhancing public awareness of chemical hazards, and facilitating development of local and state emergency response plans.

4.2.8 Chemical Tracking and Control

E&WM's Chemical Tracking and Control Systems (CT&CS) Division is in the process of implementing an integrated program of computer tracking systems and administrative controls designed to monitor the storage and use of chemicals at the RFP. This information supports several regulatory and plant management objectives as well as building-specific chemical tracking needs and forms the basis of the computerized Chemical Control System (CCS) for the RFP. The CCS uses bar-code labels to identify each chemical container on plantsite. These labels are electronically read by hand-held scanners and the information is uploaded to RFP's unclassified VAX computer. Information about each chemical container is linked to the bar-code label.

4.2.9 Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)

The FIFRA Program is primarily one of record-keeping concerned with tracking algaecides, fungicides, rodenticides, insecticides and pesticides throughout the plantsite, from the initial purchase of the material to final disposal. The program ensures that all pesticides on plantsite are registered with the EPA, are applied by licensed contractors, and that waste is properly disposed. Participants in the program are the users of the pesticides who, in coordination with the FIFRA coordinator, pool information that goes into the main database, and inform the FIFRA coordinator of possible problems or concerns. Participants include Plant Services, Cooling Tower Managers, Maintenance, CT&CS, and offsite contractors contracted to apply the pesticides. The FIFRA program is in the process of being moved from Waste Guidance Programs to the Surface Water Division of Environmental Protection Management.

The obligations of the FIFRA Program are dictated by the requirements of the FIFRA and the DOE. The Watershed Management Plan (WMP), currently in draft form, includes the FIFRA Program, since the use of pesticides can affect stormwater runoff quality as well as waste streams, thus affecting areas covered by the CWA regulations as well as the waste minimization programs. Until the WMP is completed, FIFRA is driven by DOE requirements that are passed on through letters and meetings to the participants through the FIFRA coordinator.

The program is being modified and expanded, with future requirements for its operation defined as follows: a database of information regarding the application of pesticides on plantsite; an annual meeting with DOE where pesticides are submitted by the users for approval for use; monitoring of the FIFRA act for updates and changes, as well as monitoring of changes in pesticide approvals and regulations by the EPA; coordination with CT&CS for tracking of the pesticides on plantsite; ongoing evaluations of chemical use and efficacy; and a constant search for alternatives to pesticide

use on plantsite. Milestones and the structure of this program are currently being established. No compliance deficiencies have been identified to date in this developing program.

4.2.10 National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) is the nation's most comprehensive legislative and public policy statement on protection of the environment. The Council of Environmental Quality's implementing regulations spell out the NEPA process that provides for a detailed statement on the environmental impact of any major proposed federal action significantly affecting the quality of the human environment.

In the late 1980s, a NEPA Compliance Committee was established to provide integrated review, guidance, and oversight for plantwide activities. The division developed a NEPA workshop explaining the NEPA process at RFP in 1991, and approximately 95 percent of the Environmental Restoration Management and Environmental Protection Management personnel and a majority of the Project Managers (specifically Facility Project Managers [FPM]) have completed the training. These workshops are offered monthly.

The Ecology and NEPA Division (END) is a multidisciplinary group of 32 members, which ensures that the plant complies with NEPA and protects the ecological health of RFP. END provides analytical, technical, regulatory, and administrative support to the DOE for analyses used in the preparation of Environmental Impact Statements (EISs) for compliance with NEPA. EISs presently active at the plant are the Sitewide EIS, the Residue Elimination Process EIS, the Defense Programs Reconfiguration EIS, and the Environmental Management Integrated Management EIS. END reviews engineering design packages for environmental and waste concerns in order to identify any environmental or waste issues. In addition, the division maintains the Land Use Management Plan and implements verification requirements stated within Mitigation Action Plans and Commitment Management Summaries.

A gap that had existed in RFP's environmental compliance program was closed in 1991 with the hiring of biological professionals to staff an ecology group in support of NEPA. Responding to a growing priority for formalized ecological monitoring on plantsite, a two-pronged effort was subsequently initiated. In March 1992, the DOE approved an Ecological Monitoring Program (EcMP) developed by END. The EcMP will establish a quantitative ecological baseline for RFP and then identify and characterize any deviation resulting from plant or remediation operations. Field work for this program is scheduled to begin in the spring of 1993. A second program approved by the DOE in 1992, the Resource Protection Program (RPP), involves biological surveys and assessments to assure compliance with biological regulations (the Endangered Species, Migratory Bird Treaty, Bald Eagle Protection, and Fish and Wildlife Coordination Acts, and the Colorado State Species of Concern list) for OUs and sitewide projects. Sitewide ecological mitigation plans for wildlife habitat and wetlands damaged or destroyed as a result of remediation or other land disturbance projects at the plant also are being developed in response to the Natural Resources Damage Assessment rule.

END is currently developing a standardized format for NEPA documents to ensure that all relevant regulations and/or guidance for each type of document is included in the final product. In addition, the division is beginning to incorporate pollution prevention ideas and techniques in its consideration of the proposed action and alternatives in NEPA documents.

END is developing a Strategic System Analysis (SSA), an operable computer system used to provide alternative analysis capabilities involving potential land use scenarios for RFP. The SSA can be used to find out where a selected alternative is going or, after choosing a destination point in the future such as a land or facility use, working backwards to see what it will take to get there.

4.3 Technology Development (TD)

The mission of TD (see Figure 1-5) is to evaluate, select, develop, and transfer integrated technologies necessary to satisfy current and anticipated needs in the areas of environmental and waste requirements. TD's goal is to work with individual organizations to define, prioritize, develop, and implement mutually agreed upon environmental remediation and waste process management technologies to define measurable objectives and standards of excellence. In addition, TD is committed to solve technology-based problems by considering environmental constraints and regulations, political realities and limitations to evaluate, select, develop, and transfer integrated technologies necessary to enable RFP to satisfy environmental and waste process management requirements.

TD contributes to the plant's overall environmental compliance by assisting the DOE in researching and developing potentially useful environmental technologies that will be used in the waste processing and cleanup efforts of RFP. TD takes its lead from the DOE, which funds these research and development efforts primarily through EM-50 funding and some EM-30, EM-40, and EM-60 funding. TD also works closely and often coordinates its efforts on similar projects being developed at other sites throughout the nuclear weapons complex.

The research and development efforts at RFP, in most cases, are driven by compliance agreements among DOE, EPA, and CDH such as the FFCA II, which mandates the Comprehensive Treatment Management Plan (CTMP). According to these agreements, the DOE is obligated to continue various research and development efforts. However, it is important to note that these technologies do not necessarily have to be developed at RFP. For example, one of the four parallel paths of the CTMP is to develop a national plan in which some or all environmental research and development efforts would be consolidated at the national laboratories. TD will support all four paths, including input to national efforts.

TD consists of the following five departments.

- **Technical Investigations** personnel are responsible for identifying, investigating, selecting, and proving new technology applications and strategies to solve environmental and waste management problems. They develop and install unique nuclear instrumentation for nondestructive assay, process control, accountability, and safeguards. They also develop and install technologies for environmental measurement, monitoring, and remediation.

- **Waste Technical Support** provides immediate, limited duration technical support to TD projects and to other E&WM and RFP organizations in the areas of electro-mechanical design and development, computer-aided design and drafting, prototype and development machining, analysis and improvement of production equipment and systems, and design fabrication.

- **Environmental Technology** personnel develop and install technologies for environmental measurement, monitoring and remediation; develop analytical characterization methods for

waste treatment processes and disposal; and provide unique, short-term analytical support to E&WM.

- **Waste Projects** develop proven technologies into full-scale, production-ready processes in support of RFP and DOE objectives in the areas of environmental and waste management with emphasis on high-priority driver requirements (e.g., FFCA). Waste Projects also supports implementation of successfully developed technologies into production, and provides production support on implemented technologies.

- **Program Support** provides administrative and para-technical support to technologists and management in the areas of project status determination, quality assurance, procedures, regulatory compliance, interaction with other RFP organizations, inventory control, communications, and reporting.

TD is currently researching the following technologies, most of which are in support of determining technologies to help mitigate the LDR waste issue at RFP.

- Thermal Treatment Process Unit
- Polymer Solidification
- Microwave Solidification
- Mixed Waste Destruction (Vitrification)
- Surface Organic Contaminant Removal
- Sample Management
- Incineration Alternatives for Combustible Waste
- Support to Robotics Technology Development

In addition to these technologies, TD was the major contributor to the Comprehensive Treatment Management Plan.

4.4 Waste Operations

The Waste Operations directorate within E&WM (see Figure 1-5) is organized into eight units with key operational responsibilities. The units include Regulated Waste, Waste Operations Support, Liquid Waste Systems, Solid Waste Processing, Waste Assay & Shipping, Waste Solidification, Liquid Waste Processing, and Waste Inspection.

From each unit manager's perspective, regulatory compliance represents an important responsibility but he or she must also direct the group's operations, personal health and safety, and DOE order compliance. Six of the units perform RCRA-related storage of waste containers awaiting treatment or disposal operations.

4.4.1 Regulated Waste

The Regulated Waste division has responsibility for some radioactive waste, but primarily focuses on mixed hazardous/radiological waste, including asbestos and other waste material regulated under TSCA. Personnel within Regulated Waste perform some sampling, maintain cargo containers where nonradiological waste may be stored, and prepare material for offsite shipment.

The division also is responsible for landfill operations, collection of storm drain water, and for Sanitary Waste, including operation of the Sewage Treatment Plant (STP).

In addition to internal RFP training, operators at the STP must be trained and certified by the State of Colorado. To maintain compliance at the STP, intake received at the plant is collected, sampled, and processed. The intake is treated, and sampled following treatment to ensure compliance. Sludge that collects in the drying beds is boxed and prepared for shipment to the Nevada Test Site (NTS) as low level waste, as long as sampling confirms no hazardous constituents are present. Determination that the material is low level waste is based on the definition of less than 100 nanocuries per gram of radioactivity. The Regulated Waste division routinely ships nonradioactive waste material offsite for disposal, including oils, nonradioactive asbestos, and PCBs.

4.4.2 Waste Operations Support

The Waste Operations Support group serves in an operational monitoring function to other units to ensure that work is performed in compliance with procedural requirements, and that operations meet DOE standards. The group utilizes the Commitments Tracking System to track action items, OSHA compliance issues, CARs (Correction Action Reports), budget issues, and Total Quality Management (TQM) activities. Waste Operations Support interfaces closely with DOE RFO to resolve issues as they may arise.

4.4.3 Liquid Waste Systems and Liquid Waste Processing

These units have recently split from the Liquid Waste Treatment organization because of the assumption of new facility/processing responsibilities. The Liquid Waste Systems division is responsible for the systems associated with processing liquids from the Interceptor Trench System on the Operable Unit 4 hillside and Building 774 operations in organic waste processing. The division focuses on processing, possible upgrades, training requirements, and procedures to treat the various feed streams.

Liquid Waste Processing is responsible for processing operations. Located primarily in Building 374, Liquid Waste Processing receives process waste from across the plantsite through the valve vault system. Although laundry operation waste represents the largest customer, process wastes transported to Building 374 can go through several stages of treatment to change the waste from an acid to a nonacid state, evaporate the liquids, and treat the remaining solids to form what is called saltcrete. All incidental water collected from pondcrete storage pads runoff also is treated. The Building 374 evaporator product water (effluent) meets regulatory requirements for recycling as a substitute for commercial raw water.

4.4.4 Solid Waste Processing

The size reduction and repackaging of solid waste material generated at RFP is the responsibility of the Solid Waste Processing division, housed in Building 776. Major operations within Building 776/777 include the Advanced Size Reduction Facility (ASRF), the Supercompactor, and the Size Reduction Vault (SRV). The Advanced Size Reduction Facility is currently awaiting maintenance work related to its robotics and cutting torch capabilities. The SRV is being prepared to support

the Waste Isolation Pilot Program (WIPP), and the Supercompactor will begin full-scale operations when authorized by the DOE. The function of Solid Waste Processing can accurately be described as waste a minimization effort (using the ASRF to reduce large items to smaller items that can be packaged per requirements). The Supercompactor also is used to reduce the volume of solid waste material; the SRV primarily performs repackaging.

4.4.5 Waste Assay & Shipping

The Waste Assay & Shipping division is responsible for managing Building 664 and 569/570, where LLW and TRU mixed waste are stored. Waste generated on the floor is packaged per requirements by the waste generator and assayed for radioactive content measurement in Building 371. Drums are then transported to Building 664 where each drum is inspected using Real-Time Radiography (RTR) to ensure that no free liquids are present and that the drum has been packaged per requirements. If free liquids are discovered, the container is returned to the generator for repackaging.

Waste Assay & Shipping personnel prepare waste containers for offsite shipment. The drums are loaded on trailers for shipment. Currently, only LLW from Nevada Test Site (NTS)-certified buildings is being shipped for disposal. Only shipments that meet all Department of Transportation requirements will leave Building 664.

4.4.6 Waste Solidification

The Waste Solidification division is responsible for pondcrete and saltcrete storage operations on plantsite as well as for operation of the five 207 Solar Ponds. Remediation of approximately 11,000 uncertifiable containers is the subject of a subcontracting effort. Remediation of the Solar Ponds Operable Unit is the responsibility of ERM.

4.4.7 Waste Inspection

This is a small group of highly trained inspectors who certify that all waste products from subcontractor construction and maintenance are properly packaged. They also monitor a small percentage of waste packaging as required by conditions and performance of individual groups.

4.5 Analytical Laboratories

The Analytical Laboratories organization (see Figure 1-5) within E&WM has been providing increased sampling and analytical support to environmental and waste management activities since the 1986 timeframe. This support comes in the form of analyses related to environmental compliance, water and air analyses, NPDES permitting, waste characterization, spill response, fingerprinting, research and development, and industrial hygiene and bioassay support. Extensive analytical capabilities also are required to support WIPP certification analyses and the Waste Stream and Residue Identification and Characterization (WSRIC) program. WSRIC is an integral component of the plant's RCRA Part B permit and requires identification of all waste streams and waste sources at RFP.

The Analytical Laboratories are organized into separate groups with diverse responsibilities.

- General Organic, General Inorganic, and General Radiochemistry Laboratories in Building 881, which sample and analyze low-level and non-radioactive materials
- PA (Protected Area) Organic and PA Inorganic Laboratories in Building 559
- PA Radiochemistry Laboratory in 371 and the PA Radioassay Laboratory in Building 771, which analyze samples with higher radioactivity content
- Environmental Radiochemistry and Bioassay Laboratories in Building 123, which perform analyses of *in vitro* bioassay, industrial hygiene beryllium analyses, environmental and effluent samples for radioactive parameters, and environmental surface water analyses for radioactive parameters.

Sample Management Offices (within Analytical Laboratories and ERM) have been established to address coordination of onsite and offsite analytical programs.

The 256 personnel working in RFP laboratories perform approximately 35,000 to 40,000 analyses each year, the majority of which are related to health and safety, environmental protection, and waste management. Some sampling supports limited ongoing production activities, and some support is provided to safeguards and security activities.

Because of the sheer volume of samples, much analytical work is contracted with outside laboratories. More than 20 outside laboratories perform the majority of analyses for current Environmental Restoration activities. Additional outside contracting also was required when certain laboratory operations were curtailed because of issues associated with double containment of process waste lines. The Analytical Laboratories in Building 881 resumed operations in January, while the Environmental Radiochemistry Laboratory in Building 123 has been operating under a contingency plan.

With current transition activities, and the increasing regulatory compliance atmosphere, the trend for increased analytical capabilities is growing. To meet this increasing demand, RFP laboratories are increasing their onsite capacities, and improving capabilities to perform waste analyses from plutonium areas. When fully in place, the laboratories will have the same capabilities to analyze plutonium waste samples as are currently in place for cold samples.

Major issues facing the laboratories in the future include completing requirements to perform more thorough plutonium analyses meeting EPA protocol, analyzing waste from the hot side, the sheer volume of samples compared to capacity (hood space, equipment, and people), the age of facilities and operating laboratories out of older buildings, and determining funding sources to replace equipment that is nearing 10 to 15 years old.

5 TRACKING

5.1 Plant Action Tracking System (PATS)

The Plant Action Tracking System (PATS), managed by the Commitments Management Department, is a tracking and trending system that locates concerns and commitments at the RFP. PATS manages and provides sitewide access to commitments made to external organizations. A commitment that requires definitive resolution and close-out through the implementation of actions is tracked through PATS.

An employee who identifies a concern reports that concern to an appropriate level of management, who determines whether the concern needs to be turned over to the System Lead in Commitments Management. The System Lead then determines whether the concern needs to be tracked by PATS. Concerns are characterized by deviations from accepted standards or norms, or problems (potential or actual) that may adversely affect: (1) the health and safety of the public or plantsite workforce, (2) the environment, (3) Safeguards and Security, (4) the operation/mission of the plant, (5) public or community relations, and (6) compliance with requirements/permits.

The System Lead oversees administration of the computer-based commitments management system. The System Lead ensures that the responsible managers are notified of commitment assignments and status that apply to their organizations. A Task Manager is then assigned to ensure proper execution of the tasks developed. The Task Manager prepares a Task Completion Certificate to signify that the task was accomplished correctly and then sends the Certificate to the Responsible Manager. Commitments Management ensures that weekly reports providing the status of outstanding commitments are prepared and distributed to Responsible Managers. AGMs receive reports every Friday.

6 TRAINING

An extensive training and qualification plant infrastructure is in place at RFP to train employees and to develop training programs to meet specific plant needs. The director of the Performance-Based Training (PBT) (see Figure 1-3) organization reports directly to the EG&G General Manager and is responsible for the overall RFP training program.

The need for a particular training program may be identified through several avenues. It may be identified through a finding (e.g., Operational Readiness Review, audit finding), lessons learned, industry events, design changes in equipment, procedural changes, site management needs, or through changes in federal or state regulations. Once a particular need is identified, PBT can perform an assessment to determine the course content. Instructional training is delivered in the form of Computer-Based Training (CBT), required reading, formal classroom, classroom/seminar training, on-the-job training, or hands-on exercises in work areas. Courses are developed with assistance from a subject matter expert (SME) and job incumbents, who may be actual operators familiar with particular operations, or from technical persons such as engineers. Depending upon the course, it may take from 80 hours up to 600 hours to fully assess and develop a training program. All courses are designed, developed, and evaluated using the administrative training procedures and standards in the Training Users Manual (1-10000-TUM).

Once a training program is developed, information about the program is forwarded to the Plant Training Records organization, which enters the information in a computerized database. Plant Training Records will incorporate the program in its regular schedule list, and classes will be scheduled based on room availability and student demand.

When employees take training courses, attendance is recorded on rosters, and the information is entered on the database, which can be accessed on the VAX. Information can be accessed by course name or by employee number. Qualification of an employee in a particular area or operation may be an extensive process, and may require up to 6 months or more to complete.

Instructors for courses are acquired from the floor or from training personnel. If the instructor is from an operating organization, he/she receives training on instructional techniques before being assigned a particular class. Most instructors continue professional development, and may need to pass Certified Environmental Trainer tests.

It is the responsibility of the operations manager, the appropriate director or designee, to monitor and project training needs in the work area. These individuals also will determine the minimum staff requirements for a building or operation, and provide a list of employees who require qualification/certification. The responsibility for trained and qualified personnel lies with the operations manager, director or designee, or an organization's training manager.

Training requirements for line and building personnel vary depending on the job tasks and the building areas. A training matrix (see Figure 6-1) has been prepared that provides a generalization of the core courses required for entry into operations areas of a particular building at RFP. This matrix does not address all job-specific training requirements, nor does it describe the extensive qualification packages that employees must satisfy. Qualification of RCRA custodians, for example, can require up to 32 hours of intense one-on-one interaction with a qualified examiner.

Planned improvements within PBT in the near future include an assessment of current RCRA training, and changes to the training program as appropriate. An assessment is also planned for Waste Programs, and PBT is beginning to assess requirements applicable to ER. The organization is planning to offer an Environmental Laws and Regulations class (16-hour course) beginning in March 1993.

	371	374	440	444	460	559	569	664	707	771	774	776	777	779	865	881	883	886	910	991	788/PADS
Building Indoctrination	A	B	A	B	A	B	A	A	A	B	B	B	B	B	B	B	B	A	B	A	A
*General Employee Training	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Nuclear Material Safeguards	A	A				A	A	A	A	A	A	A	A	A	X	X	X	X	A	A	A
Hazard Communication	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Nuclear Criticality Safety	B	B				B	B	B	B	B	B	B	B	B		X	X	X	B	B	
Protecting The Radiation Worker	B	B		B		B	B	B	B	B	B	B	B	B	B	X	X	X	B	B	B
Respirator Indoctrination	B	B		B		B	B	B	B	B	B	B	B	B	B	X	X	X	B	B	B
Respirator Fit	B	B		B		B	B	B	B	B	B	B	B	B	B	X	X	X	B	B	B
24-Hour OSHA	X	X		X		X	B	A	X	X	X	X	X	X	X	X	X	X	X		X
40-Hour OSHA	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X		
8-Hour OSHA Refresher	X	X	X	X	X	X	B	A	X	X	X	X	X	X	X	X	X	X	B		X
RCRA CBT	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
RCRA OJT	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Beryllium Operations				X					X			X	B	X	C	X	X	X			
Waste Generator, Non-PA				C											X	X	X	X			
Waste Generator	X	X				C	C	C	C	X	X	C	C	C					X	C	X

A - Items are required for entry into building.
B - Items are required for controlled area entry (no hands-on work).
C - Items are required for controlled area entry (hands-on work).
X - As required by job classification (contact management or BQPM).
* Not required for contractors.

Figure 6-1 Training Requirements Matrix

7 QUALITY ASSURANCE

The Quality Assurance (QA) Program at RFP is designed to ensure that programs are conducted in accordance with applicable regulatory requirements, and strive to continuously improve the performance in those areas. The QA Program reaches all environmental program activities that are conducted to meet the requirements of federal, state, and local statutes, regulations, and agreements.

In June 1990, the Environmental Management Department of EG&G conducted a quality assessment of the environmental remediation, monitoring, protection, compliance, and reporting programs at RFP for which Environmental Management had responsibilities. From this assessment, QA requirements applicable to RFP environmental programs were identified and a QA Program was developed. The QA Program was partially implemented in May 1991 and is described in the Quality Assurance Program Description (QAPD) and the RFP Sitewide Quality Assurance Project Plan (QAPjP) for CERCLA Remedial Investigation/Feasibility Study and RCRA Facility Investigation/Corrective Measures Study activities. With the October 1992 separation of the Environmental Management Department into Environmental Protection Management (EPM) and Environmental Restoration Management (ERM), the need arose for clearly defined QA roles. The ERM operation continues to be guided by the QAPjP, whereas EPM is functioning following the QAPD (pending revisions) as an interim QA document.

The QAPD is applicable to environmental program activities and describes requirements, methods, and responsibilities for achieving and assuring quality for management, staff, contractors, and vendors. It further specifies those administrative and operational procedures needed to implement the applicable QA requirements and actions. An implementation plan is currently being developed to revise the QAPD to address specifically EPM functions and to specify customer QA requirements more specific to environmental monitoring, permitting, and regulatory reporting.

The current EPM QA Program operates by adhering to the following requirements.

- Individuals responsible for performing the work are responsible for achieving and maintaining quality.
- Interface between organizations and subcontractors is documented.
- Responsibility for work may be delegated to other organizations, but ultimate responsibility is retained by the organization originally assigned.
- Verification of overall quality is performed by qualified persons or organizations not responsible for performing the work.
- Environmental activities, including those performed by subcontractors and suppliers, are subject to audit and surveillance by the site QA organization, which is in a department separate from environmental organizations.

The QAPD contains an overview of the program elements of quality assurance. Activities are reviewed and observed to verify (1) use of appropriate equipment, (2) that prerequisites are being met, and (3) that technical and quality requirements are included in the work being performed. It further ensures the following.

- Procedures are prepared for environmental activities affecting quality.
- Written personnel qualifications, training/indoctrination activities, and position descriptions are documented for all environmental personnel.

- Data quality objectives are defined for environmental monitoring and reporting activities.
- The QA program is audited annually for adequacy and effectiveness.

The QA program is designed to ensure that environmental activities are conducted in compliance with appropriate requirements, rules and orders as they relate to procurement, document control, adherence to procedures, inspections, control of measuring and test equipment, audits and surveillances, corrective actions, and continuous improvements. The EPM program is specifically concerned with ensuring reliability of work product through verified procedures and assessments and striving to attain defined data quality objectives.

Key aspects of QA at RFP are the analyses performed by the Analytical Laboratories organization. These laboratories help ensure data reliability related to environmental and waste sampling.

At present, four EPM divisions are involved in the EPM Quality Assurance Program. These personnel draft, review, and verify procedures for work they perform, record and track data and work package status, and prepare self assessments of their programs. Although significant improvements have been made in the QA program, several issues remain to be resolved due to the new EPM Department. These include defining clear Data Quality Objectives (DQOs) for all EPM activities and documenting how each of these DQOs are met, identifying ownership of previous Environmental Management procedures, training EPM personnel to the newly identified EPM administrative procedures, and documenting training and technical activities appropriately. Resolution of the first issue will identify the gaps in the EPM QA program so that appropriate action can be taken. Training and documentation of EPM activities will improve the work product and help attain reliability.

Several improvements have been initiated to address these issues. A QA program manager and staff have been established to implement and monitor the program; the QA program provides for a vigorous planning and procedure system incorporating a disciplined approach not previously utilized within the department; the program further establishes a document control system to ensure that plans, procedures, and subsequent reviews are properly approved, issued to personnel performing the work, and that documentation of the work is collected, indexed, and retained in a controlled fashion; and the QA program manager has authority to provide oversight of all work in the form of inspection and surveillance.

8 OVERSIGHT

RFP operations are subject to various types of oversight, both internal and external. In addition to self-evaluations by line personnel, internal organizations provide periodic oversight of activities. The following sections describe the primary internal oversight functions.

8.1 Waste Surveillance

Divisions within the Standards, Audits, and Assurance organization (see Figure 1-3) perform internal oversight activities. Within the Assessment directorate, a Waste Surveillance group performs RCRA inspections on the floor. Waste Surveillance personnel perform internal inspections of all RCRA-regulated units, alerting personnel of any potential noncompliance issues before an independent (external) inspection might discover the issue. Waste Surveillance

personnel conduct inspections with the appropriate custodian, hold a close-out meeting to discuss any findings, and write a formal report, which is forwarded to the custodian, the operations manager, the director of the Department, and eventually entered in the PATS system.

Personnel in Waste Surveillance are continually receiving training, both internally and through outside courses, to remain knowledgeable of new laws and regulations. TSCA inspections also are covered by Waste Surveillance personnel, and the program will be expanded in the future to include Clean Air and Clean Water issues.

Generally, prevalent issues identified by Waste Surveillance are associated with tanks and liquids, particularly those issues related to secondary containment. Other issues relate to improper completion of normal inspection logs and posting of proper signs. Current indications are that compliance is improving.

8.2 Environmental & Waste Assessments/Audits

Environmental and Waste Assessments/Audits (E&WAA), also a part of the Assessment directorate, looks at programs in relation to requirements (DOE orders, regulations) for the plant. Results of the audits/assessments are given to various AGMs to let the AGM know how the organization is performing. To perform an assessment, E&WAA examines results of inspections from Waste Surveillance and results from internal audits to fully assess the program. Surveillance supports audit activities, which supports assessments. Although primarily an oversight function, the group provides support through technical reviews, procedure development, and quality plans.

8.3 Internal Audit

Internal Audit (see Figure 1-3), whose director reports to the EG&G General Manager, is an internal control that functions to measure and evaluate the effectiveness of other internal controls. The objectives of Internal Audit are to assist members of management in the effective discharge of their responsibilities by furnishing them with analyses, appraisals, recommendations, counsel, and information pertinent to their duties and objectives, and by promoting effective control at reasonable cost.

Internal Audit investigates waste, fraud, and abuse, and efficient use of government funds. Among its other objectives are to (1) review the internal control systems established to ensure compliance with the DOE Contract and with those orders, laws, regulations, plans, policies, and procedures that could have a significant impact on operations, and (2) determine whether a particular organization is in compliance.

Although limited audits were performed in the past in the area of environmental/waste compliance, Internal Audit is beginning to examine the area more closely. In the past, Internal Audit has examined certain aspects of waste compliance, such as compliance issues associated with a waste barrel. It will check waste records, the training of personnel, and timecards. Once an audit is completed, a close-out meeting will be performed with the audited organization. This will be followed with a written report. The audited organization has 10 days to respond to the report, including any corrective actions that may be taken in response to audit findings. A final report is then issued by Internal Audit. Internal Audit does not dictate what corrective action to take (that is

the responsibility of the audited organization), but it has responsibility to determine whether the corrective action fixes the problem.

An annual report is prepared by Internal Audit that reviews all audits performed, and the information is forwarded to DOE RFO and DOE IG for additional distribution.

8.4 Senior Management Oversight

Senior Management (J.O. Zane, H.P. Mann) provides overall leadership, oversight, and influence on plant direction. Mission statements and goals that originate at the senior management level are provided to appropriate AGMs, who provide further guidance to directors and line management personnel. Senior management also serves a management control function as part of the Work Breakdown Structure and Work Package process, reviewing work packages in terms of schedule, cost, and performance. Financial guidance and oversight also is provided by senior management.

8.5 External Oversight

RFP operations are subjected to a variety of external oversight activities to measure compliance with applicable requirements. DOE RFO will perform inspections and audits, as will DOE HQ personnel, and the Inspector General (IG). DOE HQ personnel have a permanent residence on plantsite to conduct inspections and report their findings directly to the appropriate Headquarters organization.

The CDH and EPA also perform inspections to ensure compliance with requirements. Findings and Notices of Violation may be issued by the regulatory agency conducting the inspection.

Finally, external oversight groups such as the Defense Facilities Nuclear Safety Board (DFNSB), which reports to Congress, will assess plant operations and issue reports. Other Congressional committees and federal authorities, such as the General Accounting Office (GAO) will periodically visit RFP, conduct inspections, and issue reports as appropriate.

9 FUTURE DIRECTION

The environmental and waste compliance situation at RFP is extremely complex, and in some cases complicated by external factors beyond the control of EG&G. While EG&G has made tremendous progress in the areas of environmental and waste compliance, it recognizes that much more remains to be done to fully integrate and coordinate the compliance-related programs that are currently in place. Major issues associated with compliance also remain to be addressed in many areas. EG&G is currently moving to address many of these issues so that RFP can implement and sustain a viable environmental regulatory compliance posture.

9.1 Environmental Compliance Pilot Program (ECPP)

One such effort is development of an Environmental Compliance Pilot Program (ECPP). A joint effort of the CDH, DOE, and EG&G, the ECPP is being developed in Buildings 460 and 559 as

part of a Regulatory Compliance Program Management Plan. Fundamental elements of the plan are to complete tasks that will enable operations managers to operate their facilities within a defined compliance envelope. The compliance envelope incorporates applicable regulatory requirements; this envelope will be implemented by procedures and practices that conform with the Conduct of Operations Program. Traceable, auditable records will provide documented compliance with the defined compliance envelope. The end result of this program will be a situation in which compliance is achieved by the actions of line personnel and first-line supervisors, and senior managers will have the tools to effectively oversee the implementation of RCRA and other regulatory compliance programs.

The ECPP is building on lessons learned from the resumption efforts at RFP. The basic approach is the following four-fold process.

1. Define facility's environmental compliance envelope
2. Verify conformance with environmental compliance envelope
3. Revise and verify as adequate, procedures (e.g., surveillance, alarm response) for maintaining environmental compliance envelope
4. Train and qualify the operating staff to carry out operations in accordance with the procedures

The purpose of the ECPP is to create and maintain a compliance envelope in a fashion analogous to the resumption effort. The ECPP will define the compliance envelope by the set of requirements and regulations that are applicable and the hardware and software methods by which these are met. A set of facility-specific Regulatory Compliance Requirements will define how the compliance envelope is maintained; operations within the compliance envelope will be prescribed by Process Limits (e.g., amount of material allowed in a certain tank or types of waste allowed in a designated storage area). Once the facility-specific compliance envelope has been established, a set of rigorous procedures describing the operation and surveillance of the equipment needed to assure compliance with environmental requirements can be written. In addition, a set of off-specification procedures will be prepared to specify the actions that must be taken if Process Limits are exceeded and the environmental compliance envelope is threatened. A minimum operating staff will be designated, trained, and qualified to the procedures.

Although the ECPP remains in development, floor personnel have begun to report notable improvements related to environmental and waste compliance. In Buildings 460 and 559, for example, building-specific Unit Information Sheets (UISs) are replacing generic UISs and are more helpful to operators who need to know where the waste came from, where it was generated, and what hazardous constituents are contained within the waste.

Interface among affected organizations and 400 Area personnel is another area experiencing improvement. The 400 Area has an Environmental Program Manager in place to provide overall guidance for environmental compliance. A 400 Area Technical Support group is in place as part of an internal building group reporting within Operations and assigned to different buildings. The 400 Area Technical Support representative in Building 460 serves as a liaison between the operators and the various waste program groups. Information on requirements is exchanged regularly between the support representative and representatives of the Waste Programs group within E&WM. This interface, combined with the ECPP, has helped increase the level of knowledge and understanding of RCRA across the floor.

9.2 Environmental Compliance Program Plan/Strategy

Another EG&G effort is development of the Environmental Compliance Program Plan/Strategy. This plan is being prepared with the help of subject matter experts in the areas of environmental compliance. The plan's goal is to develop the methodology and strategy for integrating EG&G's compliance functions. This will help reduce the number of environmental issues that need to be addressed and will help establish clear lines of authority and responsibility regarding regulatory compliance. In addition, it will provide increased accountability and help formalize the structure for performing corrective actions and closing out identified deficiencies.

Development of the plan/strategy will help improve lines of communication and coordination among affected organizations, provide operation-specific and user-friendly direction to line management personnel, and assist senior management by providing better methods to track progress and provide assurances that individual programs are in compliance with applicable requirements. This plan/strategy is expected to be completed by June 1, 1993.